RE: FATM source conclusions standard and OSAC In Brief

From: "Kaye, David" <(b) (6)dsl.psu.edu>
To: Barry Scheck <(b) (6) >, Jennifer Friedman (b) (6)
Cc: Christine Funk <(b) (6) >, Christopher Plourd (b) (6) , "Dick Reeve (b) (6) " (b) (6) , "Dick Reeve (b) (6) John Ellis (b) (6) , Kent Cattani (b) (6) , Lynn Garcia (b) (6) , Ron Reinstein (b) (6) , "Hunt, Ted (ODAG)" (b) (6)
Date Sun, 03 Sep 2017 18 37 39 0400

Hi Barry,
As I structured it, that is what the comments are for. This is a memorandum that supplies legal background.
--David

From: Barry Scheck [(b) (6)]
Sent: Sunday, Septembe
To: Jennifer Friedman <(b) (6) >
(b) (6) ne Funk (b) (6)
(b) (6) : Dick Re (b) (6) Dick
(b) (6) (b) (6) fd.org>; Ke
(b) (6) (b) (6) n Reinstein (b) (6) ; Ted
Hunt (b) (6) <(b) (6)
Subject: con d OSAC In Brief

And why not answer that question?

Sent from my iPhone

On Sep 2, 2017, at 6:07 PM, Jennifer Friedman <(b) (6) > wrote:

> David
> I think this is very good. My only suggestion would be to move the following paragraph to the end of the memo.
>
> This legal environment raises a question for OSAC. Should it press ahead with the traditional theory and place it on a registry of standards that are certified as scientifically validated, or should it wait for a standard containing more detailed criteria for arriving at conclusions and information to help examiners express uncertainty in terms of sensitivity (how often they make correct, positive associations when confronted with items from the same firearms) and specificity (how often then make correct, negative associations when confronted with items from different firearms)?
>
> Jennifer Friedman
> Los Angeles County Public Defender
> 210 West Temple Street, 19th Floor
> Los Angeles, CA. 90012
> (b) (6)
> (b) (6)
>
>
>
> **From:** Kaye, David [(b) (6) dsl.psu.edu]
> **Sent:** Saturday, September 02, 2017 1:35 PM
> **To:** Barry Scheck <(b) (6) >; Christine Funk (b) (6) ; Christopher Plourd (b) (6) >: Dic e (b) (6) ; Dick Reeve (b) (6) >; Jennifer Friedman

<[redacted]>; John Ellis <[redacted]>; Kaye, David <(b) (6)dsl.psu.edu>; Kent Cattani <[redacted]>; Lynn Garcia <[redacted]>; Ron Reinstein <[redacted]>; Ted Hunt <[redacted]>
Subject FATM source conclusions standard and OSAC In Brief

Hi everyone,
As you know, final comments on the Firearms and Toolmarks Subcommittee's pre-SDO standard for source conclusions are up on Kavi for a vote. These comments include a memorandum on admissibility of firearms source testimony, with a short section on the PCAST report. I noticed a few typos and awkward phrases in the memorandum. The attached draft corrects those and adds three more citations, but for the purpose of voting, it won't matter whether you read these corrections or just use the draft linked to the ballot.
At the Tampa meeting, I would like to suggest that the LRC place a notice in the *OSAC In Brief* mailing that gives links to documents we have produced that we think all subcommittee members should read. The *Brady* memorandum, the comments on the virtual subcommittee source-conclusions framework document, and this one are my candidates for the list. Therefore, I hope everyone will read this memorandum and vote on the pending ballot, which closes in five more days.
Best,
David

Re: FATM source conclusions standard and OSAC In Brief

From: Barry Scheck <(b) (6)>
To: "Kaye, David" <(b) (6)>
Cc: Jennifer Friedman <(b) (6)>, Christine Funk <(b) (6)>, Christopher Plourd <(b) (6)>, "Dick Reeve (b) (6))" <(b) (6)>, "Dick Reeve (b) (6))" <(b) (6)>, John Ellis (b) (6), Kent Cattani (b) (6), Lynn Garcia (b) (6), Ron Reinstein <(b) (6)>, "Hunt, Ted (ODAG)" <(b) (6)>
Date Mon, 04 Sep 2017 21 44 54 0400

I like it at the end, or a form of it at the beginning I try to make thi point in my comment accompanying Lrc tatement in this area. Truthfully they should directly address why they refuse to adopt pcast black box or white box approach to determine false positive and false negative rates. If they don't want to include inconclusives when calculating the rates just acknowledge and justify. Educated Courts will want to know

Sent from my iPhone

On Sep 2, 2017, at 6:52 PM, Kaye, David <(b) (6)> wrote:

|

Thanks, Jennifer. I assume that others will agree with or be indifferent to this move. It seems like an improvement to me, but anyone who wants the sentence to remain where it is (just before the last section), should say so when voting or by emailing me.

--David

From: Jennifer Friedman [mailto (b) (6)]
Sent: Saturday, September 2, 2017 8:07 PM
To Kaye, David <(b) (6)>; Barry Scheck <(b) (6)>; Christine Funk (b) (6), Chri topher Plourd (b) (6), Dick Reeve (b) (6)) <(b) (6)>; Dick Reeve (b) (6)) <(b) (6)>; John Ellis (b) (6), Kent Cattani <(b) (6)>; Lynn Garcia (b) (6), Ron Reins (b) (6)>; Ted (b) (6) <(b) (6)>
Subject RE FATM ource conclu ion tandard and OSAC In Brief

David

Re: FATM source conclusions standard and OSAC In Brief

From: "Reinstein, Ron" (b) (6)
To: "Kaye, David" (b) (6) , Jennifer Friedman (b) (6) , Barry Scheck (b) (6) , Christine Funk (b) (6) , Christopher Plourd (b) (6) , "Dick Reeve (b) (6) , "Dick Reeve (b) (6) >, John Ellis (b) (6) , "Cattani, Kent" (b) (6) , Lynn Garcia (b) (6) , "Hunt, Ted (ODAG)" <(b) (6)
Date: Tue, 05 Sep 2017 04:06:18 -0400

David--count me in the indifferent camp as to where the paragraph is located--Ron

Ron Rein tein
Judge,Superior Court of Arizona (Retired)
Judicial Consultant--Arizona Supreme Court
(b) (6)

From: Kaye, David <(b) (6) >
Sent: Saturday, Sept 2 PM
T rry Scheck; Chr opher Plourd; Dick Reeve
(b) (6)); Dick Reeve (b) (6)); John Ellis; Cattani, Kent; Lynn Garcia; Reinstein, Ron; Ted Hunt (b) (6)
Subject: RE: FAT ns standard and OSAC In Brief

PCAST 'Rebuttal' Report

From: "Laporte, Gerald (OJP)" <(b) (6)
To: "Hunt, Ted (ODAG)" <(b) (6)
Date: Fri, 23 Feb 2018 11:06:13 -0500

Ted,

I'm not sure what you are permitted to do with respect to authoring a paper, but would you be interested in working on a publication that essentially responds to the flaws in the PCAST report. I've been collecting papers and court rulings for the pa t year and now feel like there' enough publi hed material to put together a trong rebuttal A another thought I'd like to put together (b) (5)

Gerry LaPorte
Director
Office of Investigative and Forensic Sciences
National In titute of Ju tice
Office: (b) (6)
Mobile: (b) (6)

Re: PCAST 'Rebuttal' Report

From: "Hunt, Ted (ODAG)" <(b) (6)
To: "Laporte, Gerald (OJP)" <(b) (6)
Date: Fri, 23 Feb 2018 11:18:47 -0500

Let's talk about this - but I have just authored a law review article on that precise subject that is awaiting publication at Fordham, to come out thi pring

> On Feb 23, 2018, at 8:06 AM, Laporte, Gerald (OJP) <(b) (6) wrote:

> Ted,
>
> I'm not sure what you are permitted to do with respect to authoring a paper, but would you be interested in working on a publication that e entially re pond to the flaw in the PCAST report I've been collecting paper and court ruling for the past year and now feel like there's enough published material to put together a strong rebuttal. As another thought, I'd like to put together (b) (5)

Anyway, think about thi a little more and we can talk when you get back
>
> Gerry LaPorte
> Director
Office of Inve tigative and Foren ic Science
> National Institute of Justice
> Office: (b) (6)
> Mobile: (b) (6)

RE: AAAS Criticizes Latent Prints Uniform Language Over 'Expectations'

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Laporte, Gerald (OJP)" <(b) (6)>
Cc "McGrath, Jonathan (OJP)" (b) (6), "Muhlhau en, David (OJP)" (b) (6), "Spivak, Howard (OJP)" (b) (6), "Hunt, Ted (ODAG)" <(b) (6)
Date: Thu, 29 Mar 2018 15:03:57 -0400

Hi Gerry,

As discussed by phone, I am unable to attend the meeting on Monday. I am out of the office tomorrow for the holiday but available by phone if anyone would like to arrange a call and I believe Ted is in the office through early afternoon.

Thank ,
Kira

From: Antell, Kira M. (OLP)
Sent Thursday, March 29, 2018 8 13 AM
To: Laporte, Gerald (OJP) <(b) (6) >; Hunt, Ted (ODAG) <(b) (6)
McGrath, Jonathan (OJP) (b) (6) Muhlhausen, David (OJP)
(b) (6) ; Spivak, Howard (OJP) (b) (6)
Subject RE AAAS Criticizes Latent Prints Uniform Language Over 'Expectations

Thanks Gerry. To my knowledge, we have not yet seen the letter to the DAG that is referenced in the article (although it may ju t not yet have been fully proce ed) Given the e development and event ne t week, doe it make en e to have a phone call today? I can be free any time after 11 and I believe Ted is available as well.

From: Laporte, Gerald (OJP)
Sent: Thursday, March 29, 2018 6:47 AM
To: Antell, Kira M. (OLP) <(b) (6) Hunt, Te ODAG) <(b) (6)
Cc: McGrath, Jonathan (OJP) <(b) (6)>; Muhlhausen, David O
<(b) (6)>; Spivak, Howard (OJP) <(b) (6)>
Subject: AAAS Critic zes Latent nts Uniform Language Over 'Expectations'

https://www.forensicmag.com/news/2018/03/aaas-criticizes-latent-prints-uniform-language-over-expectations?et_cid=6300700&et_rid=454858276&type=headline&et_cid=6300700&et_rid=454858276&linkid=https%3a%2f%2fwww.forensicmag.com%2fnew %2f2018%2f03%2faaa criticize latent print uniform language over expectations%3fet_cid%3d6300700%26et_rid%3d%%subscriberid%%%26type%3dheadline

The U.S. Department of Justice rolled out "uniform language" about how fingerprint experts could testify in federal courtrooms last month. Gone was "individualization," in favor of "identification"—but with limits. Experts are supposed to explain their work to juries, without professing certainty, since match statistics like those found in DNA are not available.

But now the American Association for the Advancement of Science tells the DOJ its new language rules don't go far enough. Experts should not be able to state their "expectations" of a match, based on their experience and expertise, according to the AAAS, in a letter sent by CEO Rush Holt to Deputy Attorney General Rod Rosenstein.

"Although the Uniform Language you put forward forbids an examiner from making the unsupportable claim that the pattern of features in two prints come from the same source to the exclusion of all others, it does allow examiners to say they 'would not except to see that same arrangement of features repeated in an impression that came from a different source,'" writes Holt.

There is "no empirical basis for examiners to estimate the frequency of any particular pattern observable in a print," adds Holt, a trained physicist, who was also an eight-term member of the U.S. House of Representatives from New Jersey. "The proposed language fails to acknowledge the uncertainty that exists regarding the rarity of particular fingerprint patterns," Holt continues in his letter. "Any such expectation that an examiner asserts necessarily rests on speculation, rather than scientific evidence."

The AAAS otherwi e commend ome of the other DOJ change , including eliminating the u e of language tating, or even implying, certainty in a match.

The DOJ changes in the "uniform language" were announced by Rosenstein at the American Academy of Forensic Sciences meeting in Seattle in February. Both Holt and Rosenstein spoke as part of the plenary e ion panel on the scientific foundation of forensic science.

The International Association for Identification, the largest group representing fingerprint experts, told *Forensic Magazine* the latest suggestion by the AAAS is not in itself scientific. Ray Jorz, the IAI president, added that they fully support the DOJ language and their overall goal i "to eek and find the truth." "I find it intere ting that the AAAS ha developed their own suggested verbiage, however it appears that they did so without the knowledge and experience of qualified practitioners and subject matter experts," said Jorz, in an email. "There has been much research already done and I am confident that research will continue that will strengthen not only the friction-ridge science but all of the forensic disciplines a well."

Latent fingerprint identification was one of a handful of forensic disciplines criticized in two reports during the Obama administration: the 2009 report by the National Academies of Science titled "Strengthening Forensic Science in the United States A Path Forward," as well as the 2016 document issued by the President's Council of Advisors on Science and Technology, or PCAST. Both reports contended fingerprint evidence was not sufficiently quantitative.

Indeed, the AAAS released its own report last September blasting "decades of overstatement" by latent print e aminer However, latent fingerprint identification is one of the disciplines that has proven to be consistently accurate A critical paper published in 2005 identified 22 fingerprint misattributions internationally over the first century of the use of forensic fingerprint comparisons. Ten of those resulted in convictions that were later overturned. None of those convictions were reached after 2000.

Best Regards,

Gerry LaPorte
Director
Office of Investigative and Forensic Sciences
National Institute of Justice
810 7th Street NW
Washington, DC 20531
Office (b) (6)
Mobile: (b) (6)

RE: Contextual Bias in Forensic Science Workshop

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Laporte, Gerald (OJP)" (b) (6)
Cc: "Hunt, Ted (ODAG)" <(b) (6)
Date Mon, 05 Feb 2018 15 43 07 0500

Hi Gerry,

Is there any chance NIJ can support my attendance at the "Contextual Bias in Forensic Science" workshop March 13-15? I think it would be very helpful for me to attend it as (b) (5) . Is NIJ ending anyone el e?

From: Laporte, Gerald (OJP)
Sent: Thursday, January 4,
To: Antell, Kira M. (OLP) <(b) (6) >
Cc: Hunt, Ted (ODAG) <(b) (6)
Subject: Fwd: Contextu nce Workshop

Kira,

See below.

Gerry LaPorte
Director
Office of Investigative and Forensic Sciences
National Institute of Justice
Office: (b) (6)
Mobile: (b) (6)

From: Forensic Workshop <Frnwkshp@cedarcrest.edu>
Date: January 4, 2018 at 10:38:45 AM EST
Cc: Larry Quarino <Laquarin@cedarcrest.edu>, Janine Kishbaugh <Jmperna@cedarcrest.edu>, Carol Ritter <Cjritter@cedarcrest.edu>, "renoforensics1@gmail.com" <renoforensics1@gmail.com>
Subject: RE: Contextual Bias in Forensic Science Workshop

From Forensic Workshop
Sent: Monday, November 27, 2017 11:02 AM
Cc Larry Quarino Laquarin@cedarcre t edu ; Janine Kishbaugh Jmperna@cedarcre t edu ; Carol Ritter <Cjritter@cedarcrest.edu>; (b) (6) police.wa.gov.au' <(b) (6) police.wa.gov.au>
Subject Contextual Bias in Forensic Science Workshop

Dear Forensic Science Professionals,

The Forensic Science Training Institute is offering a workshop titled "Contextual Bias in Forensic Science" March 13-15, 2018.

The topic of "bias" and its implications for forensic practice has been hotly debated and researched in forensic and academic circles over the last decade The 2009 National Academy of Sciences (NAS) report on the state of forensic science in the USA and the 2016 President's Council of Advisors on Science and Technology (PCAST) report on forensic science recommend that forensic practitioners address issues relating to bias in forensic science and provide evidence to the fact finder that they have done so.

This workshop uses an engaging and innovative mixture of lectures, case examples, and practical activities to educate participants on the theoretical concepts and practical implications of bias within forensic science Participants will receive instruction on the various types of bias, how to identify its presence, how to mitigate

its influence, methods on how to sequentially unmask data, procedures used to identify task-relevant information, concepts for the appropriate management of case specific contextual information and how to appropriately document critical decision pathways.

This workshop is primarily aimed at forensic science practitioners both scene or laboratory based, especially those involved in the early identification, collection and interpretation of evidence It is however designed to benefit anyone who produces, uses or relies upon forensic science for decision making purposes within the justice system, including judges, district attorneys, defense lawyers, and detectives

The workshop is $395 per person

For registration, please visit http //www cedarcre t edu/foren ic/18/2 htm

Sheila
Administrative Assistant

Re: Contextual Bias in Forensic Science Workshop

From: "Laporte, Gerald (OJP)" <(b) (6)>
To: "Antell, Kira M. (OLP)" <(b) (6)>
Cc: "Hunt, Ted (ODAG)" <(b) (6)>
Date Tue, 06 Feb 2018 10 04 33 0500

Checking on thi a little more

Gerry LaPorte
Director
Office of Inve tigative and Foren ic Science
National Institute of Justice
Office: (b) (6)
Mobile: (b) (6)

On Feb 5, 2018, at 3:43 PM, Antell, Kira M. (OLP) <(b) (6)> wrote:

Hi Gerry,

I there any chance NIJ can upport my attendance at the "Conte tual Bia in Foren ic Science" work hop March 13 15? I think it would be very helpful for me to attend it as (b) (5). Is NIJ sending anyone else?

From: Laporte, Gerald (OJP)
Sent: Thursday, January 4, 2018 11:16 AM
To Antell, Kira M (OLP), (b) (6)
Cc: Hunt, Ted (ODAG) <(b) (6)>
Subject: Fwd: Contextual Bias in Forensic Science Workshop

Kira,

See below.

Gerry LaPorte

Director

Office of Investigative and Forensic Sciences

National Institute of Justice

Office: (b) (6)

Mobile (b) (6)

From: Forensic Workshop <Frnwkshp@cedarcrest.edu>
Date: January 4, 2018 at 10:38:45 AM EST
Cc: Larry Quarino <Laquarin@cedarcrest.edu>, Janine Kishbaugh <Jmperna@cedarcrest.edu>, Carol Ritter Cjritter@cedarcre t edu , "renoforen ic 1@gmail com" renoforen ic 1@gmail com
Subject: RE: Contextual Bias in Forensic Science Workshop

From: Forensic Workshop
Sent Monday, November 27, 2017 11 02 AM
Cc: Larry Quarino <Laquarin@cedarcrest.edu>; Janine Kishbaugh <Jmperna@cedarcrest.edu>; Carol Ritter <Cjritter@cedarcrest.edu>; (b) (6) police.wa.gov.au' <(b) (6) police.wa.gov.au>
Subject: Contextual Bias in e Workshop

Dear Forensic Science Professionals,

The Foren ic Science Training In titute i offering a work hop titled “Conte tual Bia in Foren ic Science” March 13-15, 2018.

The topic of “bias” and its implications for forensic practice has been hotly debated and researched in forensic and academic circles over the last decade. The 2009 National Academy of Sciences (NAS) report on the state of foren ic cience in the USA and the 2016 Pre ident’ Council of Advi or on Science and Technology (PCAST) report on forensic science recommend that forensic practitioners address issues relating to bias in forensic science and provide evidence to the fact finder that they have done so.

This workshop uses an engaging and innovative mixture of lectures, case examples, and practical activities to educate participants on the theoretical concepts and practical implications of bias within forensic science. Participant will receive in truction on the variou type of bia , how to identify it pre ence, how to mitigate it influence, methods on how to sequentially unmask data, procedures used to identify task-relevant information, concepts for the appropriate management of case-specific contextual information and how to appropriately document critical decision pathways.

Thi work hop i primarily aimed at foren ic cience practitioner both cene or laboratory ba ed, e pecially those involved in the early identification, collection and interpretation of evidence. It is however designed to benefit anyone who produces, uses or relies upon forensic science for decision making purposes within the justice system, including judges, district attorneys, defense lawyers, and detectives.

The work hop i $395 per per on

For regi tration, plea e vi it http //www cedarcre t edu/foren ic/18/2 htm

Sheila

Administrative Assistant

Re: Contextual Bias in Forensic Science Workshop

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Laporte, Gerald (OJP)" <(b) (6)
Cc: "Hunt, Ted (ODAG)" <(b) (6)
Date Thu, 04 Jan 2018 11 20 08 0500

Thank !

Sent from my iPhone

On Jan 4, 2018, at 11 15 AM, Laporte, Gerald (OJP) (b) (6) wrote

> Kira,
>
> See below
>
> Gerry LaPorte
> Director
> Office of Inve tigative and Foren ic Science
> National Institute of Justice
> Office: (b) (6)
> Mobile: (b) (6)
>
> > **From:** Forensic Workshop <Frnwkshp@cedarcrest.edu>
> > **Date:** January 4, 2018 at 10:38:45 AM EST
> > **Cc** Larry Quarino Laquarin@cedarcre t edu , Janine Ki hbaugh Jmperna@cedarcre t edu , Carol Ritter <Cjritter@cedarcrest.edu>, "renoforensics1@gmail.com" <renoforensics1@gmail.com>
> > **Subject: RE: Contextual Bias in Forensic Science Workshop**
> >
> > |

From: Forensic Workshop
Sent: Monday, November 27, 2017 11:02 AM
Cc Larry Quarino Laquarin@cedarcre t edu ; Janine Ki hbaugh Jmperna@cedarcre t edu ; Carol Ritter <Cjritter@cedarcrest.edu>; (b) (6) @police.wa.gov.au' <(b) (6) @police.wa.gov.au>
Subject: Contextual Bias in Forensic Science Workshop

Dear Forensic Science Professionals,

The Forensic Science Training Institute is offering a workshop titled "Contextual Bias in Forensic Science" March 13-15, 2018

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science recommend that forensic practitioners address issues relating to bias in forensic science and provide evidence to the fact finder that they have done so.

This workshop uses an engaging and innovative mixture of lectures, case examples, and practical activities to educate participant on the theoretical concept and practical implication of bia within foren ic cience Participant will receive instruction on the various types of bias, how to identify its presence, how to mitigate its influence, methods on how to sequentially unmask data, procedures used to identify task-relevant information, concepts for the appropriate management of case-specific contextual information and how to appropriately document critical decision pathways.

This workshop is primarily aimed at forensic science practitioners both scene or laboratory based, especially those involved in the early identification, collection and interpretation of evidence It i however de igned to benefit anyone who produces, uses or relies upon forensic science for decision making purposes within the justice system, including judges, district attorneys, defense lawyers, and detectives.

The workshop is $395 per person.

For regi tration, plea e vi it http //www cedarcre t edu/foren ic/18/2 htm

Sheila

Administrative Assistant

Re: Contextual Bias in Forensic Science Workshop

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Laporte, Gerald (OJP)" <(b) (6)
Cc: "Hunt, Ted (ODAG)" <(b) (6)
Date Fri, 09 Feb 2018 12 55 54 0500

Thank for looking into it I appreciate it!

Sent from my iPhone

On Feb 9, 2018, at 12 55 PM, Laporte, Gerald (OJP) (b) (6) wrote

|

Kira,

None of the available funds we have for 'invitational travel' can be used to travel feds unless the fed is substantively involved in a working group or other planning activity I wa planning to attend thi work hop, but it i likely I won't receive approval because all of our Q2 travel was submitted and approved months ago. If my travel is deemed 'programmatic' then it is much easier to get approval for unplanned activities during the Quarter because it only escalates to David; however, if it is deemed a 'conference' then we have to get OAAG approval. Generally, the OAAG does not allow la t minute ubmi ion unle we have an e tremely trong ju tification and it i deemed mi ion critical

Best Regards,

Gerry LaPorte

Director

Office of Inve tigative and Foren ic Science

National Institute of Justice

810 7th Street NW

Wa hington, DC 20531

Office: (b) (6)

Mobile: (b) (6)

From Antell, Kira M (OLP)
Sent: Monday, February 05, 2018 3:43 PM
To: Laporte, Gerald (OJP) (b) (6)
Cc: Hunt, Ted (ODAG) <(b) (6)
Subject RE Conte tual Bia in Foren ic Science Work hop

Duplicative Material see bates stamp numbers 20220314-11956 to 20220314-11957

RE: FRE Post PCAST Cases

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Goldsmith, Andrew (ODAG)" <(b) (6)
Cc: "Shapiro, Elizabeth (CIV)" <(b) (6) >, "Hunt, Ted (ODAG)" <(b) (6)
Date Tue, 24 Apr 2018 12 56 49 0400

Correction there are few more that I know about but the one I'm thinking of either don't con ider the evidence in a much detail or are duplicative.

From: Antell, Kira M. (OLP)
Sent Tuesday, April 24, 2018 12 54 PM
To: Goldsmith, Andrew (ODAG) <(b) (6) >
Cc Shapiro, Elizabeth (CIV) (b) (6) ; Hunt, Ted (ODAG) (b) (6)
Subject: RE: FRE Post PCAST Cases

Not criminal federal ones of which I am aware.

From: Goldsmith, Andrew (ODAG)
Sent: Tuesday, April 24, 2018 12:53 PM
To: Antell, Kira M. (OLP) <(b) (6) Shapiro, Elizabeth (CIV) <(b) (6) >; Hunt, Ted (ODAG) <(b) (6)
Subject: RE: FRE Post PCAST Cases

These are fine – are there no other post-PCAST cases we can cite?

From: Antell, Kira M. (OLP)
Sent Tuesday, April 24, 2018 12 50 PM
To: Goldsmith, Andrew (ODAG) <(b) (6) Shapiro, Elizabeth (CIV) (b) (6) ; Hunt, Ted (ODAG) (b) (6)
Subject: FRE Post PCAST Cases

All,

Attached are few post-PCAST case squibs where the court considers and rejects motions to exclude based on PCAST. I have also attached a DNA scientists refutation of PCAST that has been relied on in some Department filings

Let me know if you have thoughts In the interest of trying to limit emails to Rob, once you've all looked, perhaps Betsy could include in Rob's binder.

Thanks,
K

RE: FRE Post PCAST Cases

From: "Goldsmith, Andrew (ODAG)" <(b) (6)
To: "Antell, Kira M. (OLP)" <(b) (6) "Shapiro, Elizabeth (CIV)" <(b) (6) >, "Hunt, Ted (ODAG)" <(b) (6)
Date: Wed, 25 Apr 2018 08:32:59 -0400

Should I try to arrange a car to leave here for Thurgood Marshall Bldg tomorrow at 2:15?

From: Goldsmith, Andrew (ODAG)
Sent: Tuesday, April 24, 2018 12:53 PM
To: Antell (b) (6) Shapiro, Elizabeth (CIV) <(b) (6) >; Hunt, Ted (ODAG) <(b) (6)
Subject: RE: FRE Post PCAST Cases

Duplicative Material

(b) (6)

RE: Forensics - follow-up Qs

From: "Hur, Robert (USAMD)" (b) (6) >
To: "Hunt, Ted (ODAG) (JMD)" <(b) (6) "Shapiro, Elizabeth (CIV)" <(b) (6) >, "Goldsmith, Andrew (ODAG) (JMD)" <(b) (6) "Antell, Kira M. (OLP) (JMD)" (b) (6)
Date: Wed, 25 Apr 2018 08:53:44 -0400

Very helpful thanks, Ted You'd think I'd have picked this up by now I appreciate your crystallizing it effectively for me See you later today

From Hunt, Ted (ODAG) (b) (6)
Sent: Monday, April 23, 2018 7:42 PM
To Hur, Robert (USAMD) (b) (6) Shapiro, Elizabeth (CIV) (b) (6) Goldsmith, Andrew (ODAG) (JMD) <(b) (6) Antell, Kira M. (OLP) (JMD) <(b) (6)
Subject RE Forensics follow up Qs

Hi Rob,

I'll think about the analogy tonight.

Regarding 3 b) below,

The central contested claim made by PCAST is that: "[T]he foundational validity of a subjective method can **only** be established through multiple, appropriately designed black-box studies." PCAST Report, p. 9.

(b)(5) per EOUSA

(b)(5) per EOUSA

From: Hur, Robert (USAMD) <[redacted](b) (6)>
Sent: Monday, April 23, 2018 6:49 PM
To: Shapiro, Elizabeth (CIV) [redacted] Goldsmith, Andrew (ODA [redacted](b) (6)
Hunt, Ted (ODAG) <[redacted](b) (6) Antell, Kir OLP) <[redacted](b) (6)
Subject: Forensics - follow-up Qs

Duplicative Material

RE: FRE Post PCAST Cases

From: "Shapiro, Elizabeth (CIV)" <(b) (6)>
To: "Antell, Kira M. (OLP)" <(b) (6)>
Cc: "Hunt, Ted (ODAG)" <(b) (6)> "Goldsmith, Andrew (ODAG)" <(b) (6)>
Date Wed, 25 Apr 2018 09 48 16 0400

Going into binder I don't really have an electronic ver ion I can end you electronic ver ion of all the ummarie and TPs that will go into the binder; I sent all but 702 last night.

From: Antell, Kira M. (OLP)
Sent Wednesday, April 25, 2018 9 46 AM
To: Shapiro, Elizabeth (CIV) <(b) (6)>
Cc Hunt, Ted (ODAG) (b) (6) Goldsmith, Andrew (ODAG) (b) (6)
Subject: RE: FRE Post PCAST Cases

Hi Betsy,

Did you send this to Rob or include in his binder? Do I need to? Do you have an electronic version of the binder that I can ee?

Thanks,
K

From: Antell, Kira M. (OLP)
Sent: Tuesday, April 24, 2018 12:50 PM
To: Goldsmith, Andrew (ODAG) <(b) (6)> Shapiro, Elizabeth (CIV) <(b) (6)>;
Hunt, Ted (ODAG) <(b) (6)>
Subject: FRE Post PCAST Cases

All,

Attached are few post-PCAST case squibs where the court considers and rejects motions to exclude based on PCAST. I have also attached a DNA scientists refutation of PCAST that has been relied on in some Department filings.

Let me know if you have thoughts. In the interest of trying to limit emails to Rob, once you've all looked, perhaps Betsy could include in Rob's binder.

Thanks,
K

RE: Forensics cases

From: "Shapiro, Elizabeth (CIV)" <(b) (6)
To: "Antell, Kira M. (OLP)" <(b) (6) "Hur, Robert (USAMD)" <(b) (6) >
Cc: "Goldsmith, Andrew (ODAG)" <(b) (6) "Hunt, Ted (ODAG)" <(b) (6)
Date Thu, 26 Apr 2018 13 51 23 0400

I am bringing copie a well

From: Antell, Kira M. (OLP)
Sent: Thursday, April 26, 2018 1:20 PM
To: Hur, Robert (USAMD) <(b) (6)
Cc: Shapiro, Elizabeth (CIV) (b) (6) Goldsmith, Andrew (ODAG) <(b) (6)
Hunt, Ted (ODAG) <(b) (6)
Subject: RE: Forens

Thanks Rob. I'll have copies in the event you need them.

From: Hur, Robert (USAMD) <(b) (6) >
Sent Thursday, April 26, 2018 1 05 PM
To: Antell, Kira M. (OLP) <(b) (6)
Cc Shapiro, Elizabeth (CIV) (b) (6) ; Goldsmith, Andrew (ODAG) (b) (6)
Hunt, Ted (ODAG) <(b) (6)
Subject RE Forensics cases

OK, thanks. If we're going to reference them, we should be ready to provide the case cites and perhaps copies.

(b)(5) per EOUSA

From: Antell, Kira M. (OLP) <(b) (6)
Sent: Thursday, April 26, 2018 1:02 PM
To: Hur, Robert (USAMD) <(b) (6) >
Cc: Shapiro, Elizabeth (CIV) <(b) (6) >; Goldsmith, Andrew (ODAG) (JMD)
<(b) (6) Hunt, Ted (ODAG) (JMD) <(b) (6)
Subject: RE: Forensics case

They do not appear in Capra's digest. Pitts is available on WL and attached but Chester is not. I have attached the two orders in Chester (one based on a motion filed pre-PCAST and a renewed motion filed post-PCAST).

From Hur, Robert (USAMD) (b) (6)
Sent: Thursday, April 26, 2018 12:51 PM
To Antell, Kira M (OLP) (b) (6)
Cc: Shapiro, Elizabeth (CIV) <(b) (6) Goldsmith, Andrew (ODAG) <(b) (6)
Hunt, Ted (ODAG) (b) (6)
Subject: Forensics cases

Kira,

Do the Pitts (Judge Irizarry) and Chester (Judge Tharp) cases you squibbed appear in Capra's memo? If so, could you please let me know the page numbers?

Thanks,
Rob

Robert K Hur
United States Attorney

(b) (6)
(b) (6)

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	
	)	
v.	)	
	)	
GREGORY CHESTER,	)	No. 13 CR 00774
ARNOLD COUNCIL,	)	
PARIS POE,	)	Judge John J. Tharp, Jr.
GABRIEL BUSH,	)	
WILLIAM FORD, and	)	
DERRICK VAUGHN,	)	
	)	
Defendants.	)	

ORDER

For the reasons stated below, defendants' second joint renewed motion to exclude expert testimony regarding firearm toolmark analysis [838] is denied. The related motion in limine [837] is also denied.

STATEMENT

I. Renewed *Daubert* Motion [838]

Defendants renew their motions to exclude toolmark analysis[1] in light of the September 20, 2016 release of the President's Council of Advisors on Science and Technology's ("PCAST") report entitled "Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature Comparison Methods." Def. Mot. 2, ECF No. 838. The report "discusses the role of scientific validity within the legal system; explains the criteria by which the scientific validity of forensic feature-comparison methods can be judged; applies those criteria to six such methods in detail . . . and offers recommendations on Federal actions that could be taken to strengthen forensic science and promote its more rigorous use in the courtroom." Ex. A. at 2.[2] Firearm toolmark analysis, which the government's experts used, is one of the six methods discussed in the report. The report is clear that "[j]udges' decisions about the admissibility of scientific evidence rest solely on legal standards; they are exclusively the province of the courts and PCAST does not opine on them." *Id*. at 4. Rather, the report provides foundational scientific background and recommendations for further study.

[1] See Motions to Exclude, ECF Nos. 333, 699; Orders, ECF Nos. 464, 781.

[2] Page numbers refer to the internal numbering of the pages of the report, not ECF page numbers.

As such, the report does not dispute the accuracy or acceptance of firearm toolmark analysis within the courts. Rather, the report laments the lack of scientifically rigorous "black-box" studies needed to demonstrate the reproducibility of results, which is critical to cementing the accuracy of the method. *Id.* at 11. The report gives detailed explanations of how such studies should be conducted in the future, and the Court hopes researchers will in fact conduct such studies. *See id.* at 106. However, PCAST did find one scientific study that met its requirements (in addition to a number of other studies with less predictive power as a result of their designs). That study, the "Ames Laboratory study," found that toolmark analysis has a false positive rate between 1 in 66 and 1 in 46. *Id*. at 110. The next most reliable study, the "Miami-Dade Study" found a false positive rate between 1 in 49 and 1 in 21. Thus, the defendants' submission places the error rate at roughly 2%.[3] The Court finds that this is a sufficiently low error rate to weigh in favor of allowing expert testimony. *See Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 594 (1993) ("the court ordinarily should consider the known or potential rate of error"); *United States v. Ashburn*, 88 F. Supp. 3d 239, 246 (E.D.N.Y. 2015) (finding error rates between 0.9 and 1.5% to favor admission of expert testimony); *United States v. Otero*, 849 F. Supp. 2d 425, 434 (D.N.J. 2012) (error rate that "hovered around 1 to 2%" was "low" and supported admitting expert testimony). The other factors remain unchanged from this Court's earlier ruling on toolmark analysis. *See* ECF No. 781.

This order does not, of course, prevent the defendants from cross-examining the government's experts regarding the error rate of toolmark analysis, and the PCAST report may provide them with fodder for cross-examination. The defendants may, for example, inquire whether the government's experts have complied with other best practices for firearm and toolmark analysis described in the PCAST report, such as the expert having "undergone rigorous proficiency testing" and whether the examiner "was aware of any other facts of the case" when he or she performed the analysis. *See* Ex. A. at 113. For its part, the government may bring out other best practices its experts have engaged in, such as independent secondary review of the examiner's results. *See* Resp. at 2.

In short, the PCAST report does not undermine the general reliability of firearm toolmark analysis or require exclusion of the proffered opinions in this case. Questions about the strength of the inferences to be drawn from the analysis of the examiners presented by the government may be addressed on cross-examination. For these reasons, the defendants' renewed motion to exclude is denied.

II. Motion in Limine [837]

The ruling to allow expert testimony on firearm toolmark analysis necessitates consideration of the defendants' joint motion to exclude, pursuant to Fed. Rs. Evid. 402 and 403, evidence and testimony about a shooting that occurred on October 25, 2005. That shooting is not charged or referred to in the Superseding Indictment.

[3] Because the experts will testify as to the likelihood that rounds were fired from the same firearm, the relevant error rate in this case is the false positive rate (that is, the likelihood that an expert's testimony that two bullets were fired by the same source is in fact incorrect).

The government gave notice of its intent to introduce evidence that bullet casings recovered from the scene of the October 2005 shooting—both 9mm and .40 caliber—were fired from the same two guns as casings from shots fired during (1) the murder of Wilbert Moore in January 2006 (the .40 caliber); and (2) the shooting of Cordell Hampton and Antoine Brooks in April 2006 (the 9mm). In short, the government seeks to prove through expert testimony that one of the firearms from the October 25, 2005, shooting was used in the shooting of Moore and another was used in the shooting of Hampton and Brooks.

The defendants object that the October 25, 2005 shooting is not relevant because it is not probative of any fact needed to meet the government's burden, and further, that the probative value of the evidence is outweighed by a risk of juror confusion and unfair prejudice. As the to the relevance question, the defendants assert: "The government has never charged or otherwise alleged any of the defendants as being involved in the October 25, 2005." Mot. 2, ECF No. 837. They argue that the shooting is unrelated to "the government's larger case" in that it is apparently "a shooting unrelated to the Hobos." *Id*. Responding orally, the government argued that the evidence is relevant because it tends to show that firearms connected to two separate alleged Hobos shootings (those of Moore and of Hampton and Brooks) were used together in the same place just months earlier.

The evidence is relevant and the objection based on Rule 402 is not well-founded. The ballistics evidence establishes a connection between the separate shootings of Moore on the one hand and of Hampton and Brooks on the other. A connection between the two events is probative of the government's allegation that the Hobos enterprise operated with a purpose of "preserving and protecting the power, territory, operations, and proceeds of the enterprise through the use of threats, intimidation, destruction of property, and violence, including, but not limited to, acts of murder, attempted murder, assault with a dangerous weapon, and other acts of violence."[4] As the defendants have argued on numerous prior occasions, the government must prove an "agreement" and a "pattern" of racketeering activity; linking two murders by the weapons used is relevant evidence to meet that burden. It is also probative of an association-in-fact between the alleged perpetrators of the two 2006 shootings, whether or not the same individuals were also involved in the 2005 shooting.

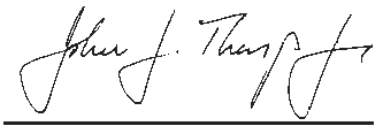
The government does not offer this ballistics evidence to prove anything about who participated in the October 25 shooting, or that it was a "Hobos shooting." The ballistics testimony at issue will be used for the sole purpose of supporting the proposition that two 2006 shootings are connected to each other by means of firearms that had a common history. The jury will not hear any testimony regarding the events of October 2005, including about the alleged

[4] Count One of the Superseding Indictment also alleges that the Hobos, as part of their illegal agreement, "committed illegal acts, including murder, solicitation to commit murder, attempted murder, aggravated battery, and assault with a dangerous weapon"; that they "obtained, used, carried, possessed, brandished, and discharged firearms in connection with enterprise's illegal activities; and that they "managed the procurement, transfer, use, concealment, and disposal of firearms and dangerous weapons within the enterprise."

perpetrators and alleged victims,[5] and therefore there is a minimal risk that it will be confused or misled by the mere reference to a shooting.

That is also the reason that this evidence is not unduly prejudicial under Rule 403. The only specific prejudice the defendants identify is the risk that "the October 2005 shooting may well be viewed by the jury as a Hobos-related shooting when there is no evidence to support that proposition." Mot. 2, ECF No. 837. But it is precisely because of this dearth of evidence about the October 2005 shooting that reference to the firearms used is not unfairly prejudicial (in addition to not being confusing, as noted above). The jury would have no basis for making the inference that the defendants fear, and the government has disavowed any intent to argue that inference (and will not be permitted to do so). Moreover, the evidence does not pertain to any particular defendant. It is dry forensic evidence that attempts to prove that the same firearms used in separate murders in 2006 had been used together on a previous occasion, by some unknown individuals. Of the many fertile areas for potential cross examination and argument on this point will be the lack of evidence that the guns were owned or possessed by the same individual(s) in October 2005 and 2006. Indeed, the fact that the guns were used in different shootings in 2006 could support the inference that ownership had changed hands since 2005.

The defendants' motion in limine is, therefore, denied.



Date: October 7, 2016

John J. Tharp, Jr.
United States District Judge

[5] To the extent the defendants seek to preclude any evidence or testimony about the October 25, 2005, shooting *other than* the ballistics match, which is relevant to linking two 2006 shootings, their motion is granted (or mooted because no such evidence is anticipated).

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

UNITED STATES OF AMERICA, Plaintiff, v. GREGORY CHESTER, et al. Defendants.	)	No. 13 CR 00774 Judge John J. Tharp, Jr.

ORDER

As explained further in the Statement below, the motion to exclude expert testimony regarding firearm toolmark analysis [699] is denied. The motion to exclude testimony of Nicholas Roti [721] is granted in part and denied in part.

STATEMENT

Defendant Paris Poe, on behalf of himself and codefendants Gregory Chester, Arnold Council, Gabriel Bush, Stanley Vaughn, William Ford, and Derrick Vaughn, moves to exclude expert testimony on firearm toolmarks and the expert testimony of Nicholas Roti pursuant to Federal Rule of Evidence 702, *Daubert v. Merrell Dow*, 509 U.S. 579 (1993), and *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999).

The first motion objects to the expert testimony of four government expert witnesses who will be called to describe firearm and toolmark comparisons they performed on bullets collected at the scenes of various crimes. Three of the experts are employed as forensic scientists for the Illinois State Police; the fourth is a forensic scientist for the Federal Bureau of Investigation. Three of the experts will be testifying as to similarities between bullets found at different crime scenes; the fourth will be testifying as to the similarity between the bullets found at a scene and test bullets fired from a recovered gun. All the findings to be presented were independently reviewed by a second examiner at the expert's laboratory.

The second motion concerns Nicholas Roti, the Chief of the Bureau of Organized Crime at the Chicago Police Department. Chief Roti is expected to testify about the history of Chicago gangs, particularly the Gangster Disciples and the Black Disciples, the causes and impacts of the decentralization of gangs, the operations of street gangs, and specifically certain behaviors of gang members. Much of this latter type of testimony concerns the support gang members provide each other in committing crimes and the movement of guns between gang members.

Rule 702 allows an expert who has specialized "knowledge, skill, experience, training, or education" to testify about an opinion assuming it will help the jury understand the evidence or

determine a fact in issue, is based on sufficient facts or data, is the product of reliable principles and methods, and the expert has reliably applied the principles and methods to the facts of the case. Factors a court may consider under *Daubert* include: (1) whether the theory or technique used by the expert can be, or has been, tested; (2) whether the theory or technique has been subjected to peer review or publication; (3) the known or potential rate of error of the method used; (4) whether there are standards controlling the technique's operation; and (5) whether the theory or method has been generally accepted within the relevant community. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 150 (1999). The *Daubert* inquiry is a flexible one and does not require strict adherence to the *Daubert* factors to guide the analysis of reliability. *Id.* at 141-142. A *Daubert* hearing need not be held in all circumstances. *See United States v. Williams*, 506 F.3d 151, 161 (2d Cir. 2007).

I. Toolmark Analysis

The government has already stated that it will not elicit a number of statements (such as that firearm and toolmark analysis is a "science") that the defendants identified as problematic in their motion. *See* Resp. at 2. In their original motion [333], defendants also raised the arguments that toolmark analysis is unreliable and that this case is especially difficult because some of the bullets are only being matched to each other, rather than to a known gun (as is usually the case). Neither of these arguments carries the day.

The government's witnesses employ toolmark analysis using the Association of Firearms and Toolmark Examiners ("AFTE") methodology. That methodology has been almost uniformly accepted among the federal courts. *See United States v. Otero*, 849 F. Supp. 2d 425, 437-438 (D.N.J. 2012), *United States v. Ashburn*, 88 F. Supp. 3d 239, 245 (E.D.N.Y. 2015), *United States v. Cazares*, 788 F.3d 956, 989 (9th Cir. 2015). An extensive discussion of the details of the AFTE methodology can be found in *Commonwealth v. Meeks*, 2006 Mass. Super. LEXIS 474 (Mass. Super. Ct. Sept. 28, 2006).

The Court is persuaded by the detailed and reasoned opinions of the *Otero* and *Ashburn* courts as to the admissibility of toolmark opinion testimony. More briefly stated here, the Court concludes that the *Daubert* factors support the admission of the government's proposed opinion testimony. First, the AFTE method has been tested and subjected to peer review. There are three different peer-reviewed journals that study the AFTE method,[1] and a number of reliability studies have been conducted of the method. *See* Richard Grzybowski, et al., *Firearm/Toolmark Identification: Passing the Reliability Test Under Federal and State Evidentiary Standards*, AFTE Journal, Vol. 35, No. 2, Spring 2003, at 14-22 (Resp. Ex. 2). Although the error rate of the method has varied somewhat from study to study, AFTE examiners have been found to have an error rate in the single digits, sometimes better than algorithms developed by scientists. *See* L. Scott Chumbley et al., *Validation of Tool Mark Comparisons Obtained Using a Quantitative, Comparative, Statistical Algorithm*, 55 JOURNAL OF FORENSIC SCIENCES 953 (2010). Although they are not quantitative, the AFTE does provide qualitative standards and training in those standards. *See United States v. Diaz*, No. CR 05-00167 WHA, 2007 WL 485967, at *9 (N.D.

[1] These journals are not without their flaws, *see* Jennifer L. Mnookin et al., *The Need for a Research Culture in the Forensic Sciences*, 58 UCLA L. REV. 725, 754-755 (2011), but not every methodology must meet exacting scientific standards as long as it demonstrates reliability. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 148-49 (1999).

Cal. Feb. 12, 2007). Firearm and toolmark analysis is also widely accepted even beyond the judicial system. One expert listed forty-two colleges and universities around the world that offer courses in toolmark identification. *United States v. Wrensford*, No. CR 2013-0003, 2014 WL 3715036, at *5 (D.V.I. July 28, 2014).

The defendants' criticism of the AFTE methodology is not persuasive. They rely on a 2008 National Research Council report that was highly critical of the AFTE method, primarily because it declared that the scientific underpinning of the theory "has not yet been fully demonstrated." Committee to Assess the Feasibility, Accuracy, and Technical Capability of a National Ballistics Database, National Research Council, Ballistics Imaging (National Academies Press 2008, available at http://books.nap.edu/catalog/12162.html) ("NRC Report") 3. However, the report was a call for further research, declaring on the same page that "we accept a minimal baseline standard regarding ballistic evidence" and on the following page that "in many situations a sufficient level of toolmark reproducibility" can be picked up by measurement as the method is currently used. *Id*. at 3-4. Perhaps an Ohio court of appeals best summarized the report when it wrote:

> Even a sympathetic reading of the [related] 2009 report, however, indicates its primary purpose was to serve as a catalyst for reassessing the scientific premises underlying the various fields of forensic science and to summarize the current state of the research in those fields relative to the challenges raised in the report. It was not its purpose to opine on the long-established admissibility of tool mark and firearms testimony in criminal prosecutions, and indeed the NRC authors made no recommendations in that regard.

State v. Langlois, 2013-Ohio-5177, P24 (Ohio Ct. App. 2013). Many courts have been confronted with the NRC's report, but none have concluded that its findings warranted the exclusion of expert toolmark opinion testimony outright. *See, e.g., Otero*, 849 F. Supp. 2d at 430, *United States v. Mouzone*, 696 F. Supp. 2d 536, 569-570 (D. Md. 2009), *United States v. Taylor*, 663 F. Supp. 2d 1170, 1176 (D.N.M. 2009). In fact, the defendants have cited no case in which a toolmark expert's testimony was not found admissible under Rule 702.

As for the defendants' argument that some of the experts will testify regarding the matches of bullets found at separate scenes without a test gun, that is of little moment. It appears experts often test bullets recovered from the same or different locations to determine whether they match before a weapon is recovered. *See, e.g., Commonwealth v. Meeks*, 2006 Mass. Super. LEXIS 474, *5 (Mass. Super. Ct. Sept. 28, 2006) ("Lydon examined under the comparison microscope the two shell casings recovered from the scene, Items # 2 and # 3. After conducting this side-by-side examination, he found that they 'shared sufficient ballistics characteristics to lead to the determination that both were fired from the same [unknown] weapon.'"). Although the conclusion is slightly different ('these bullets were likely fired from the same unknown gun' rather than 'these bullets were likely fired from this particular gun'), the act of analysis is identical and there is no reason to disqualify the experts' testimony on that basis.

For these reasons, the Court denies the defendants' motion to exclude firearm and toolmark evidence. Defendants may still raise issues regarding the NRC report, the actual error rate of toolmark analysis, and other arguments to test the limitations and potential weaknesses of the experts' methods on cross-examination.

II. Gang Expert Nicholas Roti

The defendants raise a number of concerns about Chief Roti's proposed expert testimony concerning gangs. First, they assert that Roti is not sufficiently qualified because in recent years he has served in command, has had many administrative duties over his career, has never been an expert witness before, and has not taken sufficient training courses. Next, they argue his testimony is unreliable because it goes beyond the scope of his experiences. The defendants also contest the relevance of Roti's opinions and their usefulness to the jury. And finally, they argue that Roti's historical testimony about Chicago gangs, even if were qualified to provide such testimony, should be excluded as unduly prejudicial under Rule 403.

As to Roti's qualifications and reliability, his credentials are impressive. In addition to serving as the Chief of the Organized Crime Bureau since 2010, his 29 year police career includes extensive work with gangs including as a street officer prior to working his way up the chain in gang-related divisions. *See* Ex. 4. It is true enough, as the defendants argue, that Chief Roti lacks extensive formal academic training relating to street gangs, but the absence of formal academic training does not disqualify him as an expert. Rule 702 says an expert may be qualified "by knowledge, skill, experience, training, ***or*** education." Fed. R. Evid. 702 (emphasis added). Roti's lack of formal courses in the subject does not preclude him from testifying as an expert based on his experience. *See Perez v. City of Austin*, No. A-07-CA-044 AWA, 2008 WL 1990670, at *9 (W.D. Tex. May 5, 2008) (qualifying psychologist who had "no academic training" in law enforcement psychology because "a lack of specialization within a particular field does not require the wholesale exclusion of an expert's testimony").

So, too, that Roti has never before served as an expert witness does not disqualify Roti from serving as an expert in this case. *See Martinez v. City of Chicago*, No. 07-CV-422, 2009 WL 3462052, at *3 (N.D. Ill. Oct. 23, 2009). Were it otherwise, of course, there would be no expert witnesses; there is a first time for everything. Beyond that fact, it bears noting that there may be more reason to be skeptical of experts with abundant experience testifying than there is for those with little such experience. *See, e.g., Samuel v. Ford Motor Co.*, 96 F. Supp. 2d 491, 495 (D. Md. 2000), *aff'd sub nom. Berger v. Ford Motor Co.*, 95 F. App'x 520 (4th Cir. 2004) ("Both Mr. Carr and Dr. Kaplan are experienced and articulate, but they clearly are advocates for their positions, and their advocacy has been polished and perfected through another rigorous test procedure-repeated testimony in contested cases, where Mr. Carr has taken the side of the auto manufacturer, and Dr. Kaplan that of the plaintiffs."). Based on his years of experience in the police department working on gang-related cases, Roti is qualified to give testimony as an expert witness. To begin disqualifying police officers, who frequently testify as expert witnesses, simply because they have been promoted away from strictly street duties would be to eliminate many of the best and the brightest of officers from testifying as expert witnesses.

That said, social science testimony, such as Roti's proposed testimony about the causes of gang decentralization, must be within the scope of his experience and the product of genuine expertise. *See Tyus v. Urban Search Mgmt.*, 102 F.3d 256, 263 (7th Cir. 1996) ("Social science testimony, like other expert testimony proffered under Fed. R. Evid. 104(a) for admission under Rule 702, must be tested to be sure that the person possesses genuine expertise in a field and that her court testimony 'adheres to the same standards of intellectual rigor that are demanded in [her] professional work.'"). "[E]ven a qualified individual may be barred under Rule 702 where

the opinion proffered calls for speculation or expertise in a field outside of the expert's purview." *Cage v. City of Chicago*, 979 F. Supp. 2d 787, 822 (N.D. Ill. 2013). And here, some of the proposed testimony falls outside Roti's experience. He has certainly had plenty of experience observing the trends and behaviors of gang members, such as what territory is controlled by certain gangs at given times, the hierarchy or lack thereof of certain gangs, and other historical events affecting gangs in Chicago (such as the teardown of public housing). Such testimony has been approved by other courts. *See, e.g., United States v. Archuleta*, 737 F.3d 1287, 1296 (10th Cir. 2013) (allowing testimony regarding the "the structure, purpose, and activities"), *United States v. Hankey*, 203 F.3d 1160, 1169 (9th Cir. 2000) (permitting testimony regarding gang colors, signs, and activities). However, as the defendants point out, Roti is not a sociologist or academic who studies how certain community factors impact gangs. *Compare, e.g.,* SUDHIR VENKATESH, GANG LEADER FOR A DAY (2008). It would be beyond the scope of Roti's experience as a police officer for him to testify that the destruction of public housing ***caused*** the decentralization of Chicago's gangs. However, Roti can testify that as a police officer he observed gangs decentralize, that public housing was destroyed in many of the neighborhoods controlled by the gangs around the same time, and that changes in territories associated with various gangs followed thereafter. That is all information within the scope of Roti's work and observations as a law enforcement officer specializing in gang-related crime.

Next the defendants argue that much of Roti's testimony fails the Rule 702 requirement that the testimony "help the trier of fact to understand the evidence or to determine a fact in issue." Expert testimony should not be admitted if it does "not aid the jury because it addresses an issue of which the jury already generally is aware, and it will not contribute to their understanding of the particular dispute." *United States v. Hudson*, 884 F.2d 1016, 1024 (7th Cir. 1989). This inquiry is often framed as whether the testimony is "well within the ken of most lay jurors." *United States v. Hall*, 165 F.3d 1095, 1105 (7th Cir. 1999). The Seventh Circuit has expressed its skepticism of certain types of gang expert testimony, noting that "[m]ost jurors are aware that gang members deal drugs, commit violent acts, and react unfavorably when their misdeeds are reported to authorities." *United States v. McGee*, 408 F.3d 966, 978 (7th Cir. 2005). *See also, e.g., United States v. Rios*, --- F.3d ---, No. 14-2495, 2016 WL 3923881, at *5 (6th Cir. July 21, 2016) (finding improper, because within the ken of the average juror, gang expert opinion testimony that gangs commonly engage in drug trafficking; share guns; commonly engage in violent disputes with other gangs; and use of violence against those who steal drugs from them); *United States v. Mejia*, 545 F.3d 179, 194-95 (2d Cir. 2008) (district court erred in admitting gang expert testimony concerning facts, such as gun possession, drug trafficking, and violence engaged in by gang because the jury needed no help in understanding facts relating to those subjects).

Some of Roti's testimony is undoubtedly helpful to jurors, such as the requirement that gang members are expected to "stand by while a fellow member confronts or is confronted by a rival" or the behavior of gang leadership in an "ongoing war situation." Ex. 1 at 5. This is the sort of testimony about how gangs operate about which a jury may not be aware. However, testimony that fellow members backing up a gang member perpetrating a crime gives the perpetrator "confidence" and "encourage[s] the commission of the offense" suggest no juror is aware of the concept of peer pressure or has had a group of friends offer encouragement. Such testimony is well within the ken of the average juror and is therefore fails to satisfy Rule 702's requirement that opinion testimony "help the trier of fact to understand the evidence or determine

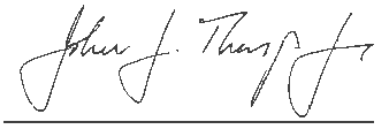
a fact in issue." Similarly, much of the proposed testimony regarding the hiding of guns following shootings (items 6-10 on the government's list in defendants' Exhibit 1 attached to their motion) is well within the knowledge of any juror who has ever watched *Law & Order*. The proposed testimony can perhaps be summed up as "sometimes gang members temporarily hide guns that have been used in crimes, then retrieve them after suspicion has passed." Such testimony reveals nothing about the inner working of the Hobos or any other gang and is intuitive to the average juror. Similarly, the government's third proposed topic – that gang members "often work together and keep guard while fellow members commit criminal offenses" so that a perpetrator need not keep watch himself – is entirely intuitive to the average juror. As described, the government intends to have Roti testify about why a criminal might want to have a lookout. That testimony will not help jurors. Unless he will describe a method of being a lookout that is uncommon and unique to gangs, the mere concept does not warrant expert testimony.

The government has also proposed Roti testify that gang members "enjoy their notoriety, and how they 'throw' their hand signs as encouragement" or "to demonstrate their status." Ex 1 at 5. A juror may not be familiar with the specific hand signs or colors that indicate participation in a given gang. *See United States v. Martinez*, No. CR 13-00794 WHA, 2015 WL 269794, at *2 (N.D. Cal. Jan. 20, 2015) (allowing testimony regarding "different signs, numbers, graffiti, colors, etc. that link VSP with the Norteños"), *United States v. Wilson*, 634 F. App'x 718, 737 (11th Cir. 2015) (affirming allowance of gang expert that testified to "several gang identifiers" such as the color red and clothing bearing the letters "B" and "P"). To the extent that Roti will explain ***what*** the signs of various gangs were, that testimony may well be helpful. But he may not testify as to the mere fact that gang members of "throw" their hand sign or what they "enjoy." The sheer fact that gangs have signs and symbols is well-known.

Finally, the defendants argue that Roti's testimony fails the balancing of Rule 403. Under the rule, testimony may be excluded "if its probative value is substantially outweighed by a danger" of unfair prejudice, wasting time, or presenting needlessly cumulative evidence. Fed. R. Evid. 403. Defendants focus especially on Roti's historical testimony, which will touch on "state and federal prosecutions" of gang members. "Rule 403 balancing is a highly context-specific inquiry" in which level of dispute on the issue, the probativeness of the testimony, and the prejudice all must be weighed. *United States v. Gomez*, 763 F.3d 845, 857 (7th Cir. 2014). Here, the balancing will depend on the depth of Roti's discussion of these past gang prosecutions. Simply noting the prosecutions as a historical event may have some probative value to explain the formation or decentralization of various gangs and explain the origin of the Hobos. However, detailed discussion of the various charges and prison sentences of various gang members would imply the defendants may be guilty by association or otherwise unduly prejudice the jury.

For the reasons discussed above, the defendants' motion to exclude the testimony of Nicholas Roti is granted in part and denied in part. Mr. Roti may testify to his observations of Chicago gangs, including their history, decentralization, and specific episodes of violence, and other relevant historical events (such as the destruction of public housing or prosecutions of gangs). He may not, however, offer opinion testimony as to the causes of gang decentralization or gang violence. He may not go into great detail about past gang prosecutions. He may provide information regarding the obligations of gang membership, the behavior of gang leaders during shooting wars, and any specific identifying signs, colors, or terms used by the gangs in question. He may not, however, opine as to what gang members "enjoy" or the mere fact that gang

members publicly display their gang affiliation. He may not testify, without more information specific to the gangs at issue in this case, that gang members generally hide guns used in crimes and then recover them when suspicion has passed. Further objections to specific testimony may be raised as Chief Roti testifies. Defendant's motion to exclude firearm and toolmark analysis is denied in its entirety.



Date: September 6, 2016

John J. Tharp, Jr.
United States District Judge

2018 WL 1169139
Only the Westlaw citation is currently available.
United States District Court, E.D. New York.

UNITED STATES of America,
v.
Lee Andrew PITTS, Defendant.

16-CR-550 (DLI)
|
Signed 03/02/2018

Attorneys and Law Firms

Girish Karthik Srinivasan, U.S. Attorney's Office, Brooklyn, NY, for United States of America.

Michael L. Brown, II, Federal Defenders of New York, Inc., Brooklyn, NY, for Defendant.

SUMMARY ORDER

DORA L. IRIZARRY, Chief Judge

***1** Andrew Lee Pitts ("Defendant") is charged with attempted bank robbery pursuant to 18 U.S.C. § 2113(a). *See* Indictment, Dkt. Entry No. 11. On August 29, 2017, Defendant disclosed his intention to call at trial Dr. Simon Cole, Professor at the University of California, Irvine, Department of Criminology, as an expert in fingerprint methodologies. *See* Def.'s Ltr. dated Aug. 29, 2017, Dkt. Entry No. 30. On September 12, 2017, Defendant filed a revised expert disclosure that included additional information about Dr. Cole's proposed testimony and his *curriculum vitae*. *See* Def.'s Ltr. dated Sept. 12, 2017, Dkt. Entry No. 33. Defendant filed additional expert disclosures with respect to Dr. Cole on January 24, 2018. *See* Exhibit B to Resp. to Mot. to Suppress ("Jan. 24 Disclosure"), Dkt. Entry No. 43-2.

On February 23, 2018, the government moved to preclude Dr. Cole's testimony. Mot. to Exclude Expert Testimony of Simon A. Cole ("Mot."), Dkt. Entry No. 45. Defendant opposed the government's motion. Mem. in Opp'n to Mot. to Exclude Expert Testimony of Prof. Simon A. Cole ("Opp'n"), Dkt. Entry No. 47.

BACKGROUND

The Court assumes the parties' familiarity with the facts and procedural history of this motion. The government contends that preclusion of Dr. Cole's testimony is necessary for three reasons: Dr. Cole (1) is "not a trained fingerprint examiner"; (2) "has not published peer-reviewed scientific articles on the topic of latent fingerprint evidence"; and (3) "has not conducted any validation research in the field." *See* Mot. at 1-2. As such, the government maintains that his testimony will not assist the trier of fact in understanding the evidence or determining a fact in issue. In opposition, Defendant argues that Dr. Cole's testimony is necessary "contrary evidence" that will assist the trier of fact, and that preclusion will violate Defendant's constitutional rights. *See generally*, Opp'n. [2] For the reasons set forth below, the government's motion is granted.

DISCUSSION

I. Legal Standard

Rule 702 of the Federal Rules of Evidence ("FRE") includes a threshold requirement that an expert's testimony "will help the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702(a). In determining whether to admit expert testimony, courts also consider an expert's qualifications and whether the proposed testimony is based on reliable data and methods. *Karavitis v. Makita U.S.A., Inc.*, 2018 WL 627491, at *1 (2d Cir. Jan. 31, 2018) (summary order) (citing *Nimely v. City of New York*, 414 F.3d 381, 396-97 (2d Cir. 2005)). The proponent of proposed expert testimony bears the burden of proof in establishing admissibility by a preponderance of the evidence. *Id.* (citing *United States v. Williams*, 506 F.3d 151, 160 (2d Cir. 2007)).

II. Analysis

***2** The government urges the Court to adopt the reasoning of several other courts that have precluded Dr. Cole's testimony. Mot. at 1-2 & n.1 (collecting cases precluding Dr. Cole's testimony); *See, e.g.*, *People v. Caradine*, 2012 WL 599252, at *15-16 (Cal. Ct. App. Feb. 23, 2012) (precluding Dr. Cole's testimony based on a lack of "training [and] expertise" and describing

his testimony as merely "relating a bunch of things he has read"); *State v. Armstrong*, 920 So.2d 769, 770 (Fla. 2006) (noting that Dr. Cole's testimony was a "general critique of the predicate underlying fingerprinting as a method of identification" and would "not be probative as to whether the latent prints lifted from the scene match [the defendant's] fingerprints").

The government additionally contends that Dr. Cole's testimony will not assist the trier of fact. Mot. at 1-2. Specifically, the government points out that Dr. Cole's only disclosed opinion is that the government's expert's testimony " 'exaggerates the probative value of the evidence because such testimony improperly purports to eliminate the probability that someone else might be the source of the latent print.' " Mot. at 2-3 (quoting Jan. 24 Disclosure). "Professor Cole fails to provide any analysis of why latent fingerprint evidence [in general] is so unreliable that it should not be submitted to the jury or, if such evidence can be reliable in some circumstances, what precisely the NYPD examiners did incorrectly in this case." *Id.* at 3. Dr. Cole is not expected to testify that the identification made by the government's expert in this case is unreliable or that the examiners made a misidentification. *See Id.* [3] Therefore, the government argues Dr. Cole's opinion goes to the weight of the government's evidence, not its admissibility. *Id.* at 5. [4]

In opposition, Defendant contends that Dr. Cole's testimony is necessary "contrary evidence" that calls into question the reliability of fingerprint analysis. Opp'n at 1-2 (citing *Buie v. McAdory*, 341 F.3d 623, 625 (7th Cir. 2003)). He further argues that precluding Dr. Cole's testimony violates his due process and confrontation rights under the Fifth and Sixth Amendments to the United States Constitution. *Id.* at 2-3. (citing *Herrera v. Collins*, 506 U.S. 390, 398-99 (1993); *Coy v. Iowa*, 487 U.S. 1012, 1017-18 (1988); *Ake v. Okla.*, 470 U.S. 68 (1985); *Buie*, 341 F.3d at 625). Finally, Defendant argues that Rule 702's liberal standard for admissibility and Dr. Cole's status as a "skilled witness" who can assist the trier of fact weighs against preclusion. *Id.* at 2-5 (citing Fed. R. Evid. 702 Advisory Comm. Notes).

***3** The Court is not convinced that Dr. Cole's testimony would be helpful to the trier of fact. The only opinion Defendant seeks to introduce is that fingerprint examiners "exaggerate" their results to the exclusion of others. *See* Mot. at 3 (citing Jan 24. Disclosure). However, the government has indicated that its experts will not testify to absolutely certain identification nor that the identification was to the exclusion of all others. Mem. of Law in Opp'n to Def.'s Mot. to Suppress, Dkt. Entry No. 43 at 18 (emphasis original) ("[N]either the government nor the NYPD latent prints examiner intend to offer evidence to the jury that the identification ... has been made with *absolute (100%) certainty* or that the identification ... has been made *to the exclusion of all others.*"). Thus, Defendant seeks admit Dr. Cole's testimony for the sole purpose of rebutting testimony the government does not seek to elicit. Accordingly, Dr. Cole's testimony will not assist the trier of fact to understand the evidence or determine a fact in issue. *See* Fed. R. Evid. 702.

Moreover, the substance of Dr. Cole's opinion largely appears in the reports and attachments cited in Defendant's motion to suppress the government's experts' opinion testimony. *See* Exhibit D to Declaration of Michael L. Brown II ("Brown Decl."), President's Council of Advisors on Science and Technology, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* (2016) ("PCAST Report"), Dkt. Entry No. 29; Exhibit C to Brown Decl., National Research Council of the National Academies, *Strengthening Forensic Science in the United States: A Path Forward* (2009) ("NAS Report"), Dkt. Entry No. 28; Exhibit B to Brown Decl., More Than Zero, *supra* n.2, at 1034-49. For example, Dr. Cole's article More Than Zero contains a lengthy discussion about error rates in fingerprint analysis and the rhetoric in conveying those error rates (*See* More Than Zero at 1034-49), and the PCAST Report notes that jurors assume that error rates are much lower than studies reveal them to be (PCAST Report at 9-10 (noting that error rates can be as high as one in eighteen)). Defendant identifies no additional information or expertise that Dr. Cole's testimony provides beyond what is in these articles and does not explain why cross-examination of the government's experts using these reports would be insufficient.

The Court also finds Defendant's constitutional arguments unavailing. It is beyond question that the Defendant enjoys the constitutional rights of due process and the presentation of evidence on his behalf. However, he is not entitled to present evidence through an expert that the Court finds will not be helpful to the trier of fact. The instant decision in no way deprives Defendant

of the right to cross-examine the government's experts on error rates and the reliability of fingerprint analysis using any evidence that is admissible at trial, including the above-referenced reports. *See* Mot. at 5 ("The defendant is also free to use materials from the President's Council of Advisors on Science and Technology and the National Academy of Sciences, among other sources, to cross-examine the experts.").

Finally, while Defendant correctly notes that Rule 702 permits experts to testify based solely on their knowledge or experience (*Id.* at 3-4 (quoting Fed. R. Evid. 702, Advisory Comm. Note)), the Court need not address Dr. Cole's qualifications [5] as an expert, since his testimony is would not be helpful to the trier of fact. Accordingly, the government's motion to preclude Dr. Cole's testimony is granted.

CONCLUSION

For the reasons set forth above, the government's motion is granted.

***4** SO ORDERED.

All Citations

Slip Copy, 2018 WL 1169139

Footnotes

1 A more detailed recitation of the facts may be found in the Court's recent ruling on Defendant's motion to suppress the government's experts. *See* Memorandum & Order, Dkt. Entry No. 46.

2 Since Defendant's submission is not paginated, the page numbers referenced herein are those assigned by ECF.

3 Defendant's opposition brief asserts that "Mr. Pitts continues to challenge the identification made in this case as a possible misidentification." Opp'n at 1. However, Defendant's expert disclosures do not indicate that Dr. Cole will testify about a misidentification.

4 The government also insinuates that the Court should preclude Dr. Cole's testimony because he has not published peer-reviewed scientific articles in the area of latent fingerprint analysis. Mot. at 1. The Court finds this argument particularly weak given that one of the government's sources in its opposition to Defendant's motion to suppress cites Dr. Cole as an authority. *See* Exhibit C to Mem. in Resp. to Def.'s Mot. to Suppress, Dkt. Entry No. 43-3, Peter E. Peterson, *et al.*, *Latent Prints: A Perspective on the State of the Science*, 11 Forensic Science Commc'ns 86, 112 (2009) (citing Simon A. Cole, *More Than Zero: Accounting for Error in Latent Fingerprint Identification*, 95 J. Crim. L. & Criminology 985 (2005) (hereinafter "More Than Zero")).

5 It is unclear from Defendant's motion the extent of Dr. Cole's experience. *See* Mot. at 3 ("Dr. Cole and [*sic*] researched finger print [*sic*] evidence for the past X decades."). It is unknown what number of decades Defendant is referring to, or if he means to use a Roman numeral to indicate ten (10) decades.

702/PCAST TPs

From: "Goldsmith, Andrew (ODAG)" <(b) (6)
To: "Hur, Robert (ODAG)" <(b) (6) >
Cc: "Antell, Kira M. (OLP)" <(b) (6) "Shapiro, Elizabeth (CIV)" <(b) (6) >, "Hunt, Ted (ODAG)" <(b) (6)
Date: Thu, 21 Sep 2017 13:59:30 -0400
Attachment Propo ed Talker for Call with Judge Living ton on 702 09202017 doc (25 2 kB); ATT00001 t t (2 bytes)

Rob - here are the talkers for R 702/PCAST. Betsy is preparing a similar set later today for 404(b) and the Committee. She ha indicated that J Living ton (b) (5) and that you'll need a more detailed briefing on the topic prior to the meeting itself. - Andrew

Talkers for call with FRE Chair

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Shapiro, Elizabeth (CIV)" <(b) (6) >
Cc: "Hunt, Ted (ODAG)" <(b) (6) "Goldsmith, Andrew (ODAG)" <(b) (6)
Date: Wed, 20 Sep 2017 09:03:04 -0400
Attachment Propo ed Talker for Call with Judge Living ton on 702 09202017 doc (25 2 kB)

Hi Betsy,

Attached are proposed talkers on 702 for the call with the judge. I know you're working on talkers on 404 and committee matter generally. Let me know how I can be helpful.

Has the call been set? I'd like very much to sit in. Not to participate but to get a read of the call and the judge.

Thanks,
Kira

Kira Antell
Senior Counsel
Office of Legal Policy
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530
(b) (6)
(b) (6)

Talkers for Spring Advisory Committee Meeting

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Shapiro, Elizabeth (CIV)" <(b) (6) >, "Hunt, Ted (ODAG)" <(b) (6)
"Goldsmith, Andrew (ODAG)" <(b) (6)
Date: Wed, 11 Apr 2018 09:53:58 -0400
Attachments: FRE Spring Meeting Talkers_04112018.docx (27.19 kB);
agenda_book_advisory_committee_on_rules_of_evidence_EDITED FOR FORENSICS_COMMENTS.docx (111.43 kB)

Attached are proposed high level talkers for Rob for the Spring meeting. Ted has been designated the responsibility to talk about the Department forthcoming projects and commitment so this reflects just responses to the memo

I have also attached a version of the forensics portion of the materials with comment bubbles Most of it is included in the talkers but thought you might find it helpful.

I am happy to take your comments and edits – I am free this afternoon or tomorrow morning if anyone would like to provide them by phone Otherwise, please email me edits and then I'll ask Betsy to share with Rob tomorrow

Thanks,
K

Kira Antell
Senior Counsel
Office of Legal Policy
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530
(b) (6)
(b) (6)

RE: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

From: "Shapiro, Elizabeth (CIV)" <(b) (6)
To: "Antell, Kira M. (OLP)" <(b) (6)
Cc "Hunt, Ted (ODAG)" (b) (6) "Gold mith, Andrew (ODAG)" (b) (6)
Date: Tue, 03 Oct 2017 11:12:50 -0400

Perfect. Thanks Kira.

From: Antell, Kira M (OLP)
Sent: Tuesday, October 03, 2017 11:11 AM
To Shapiro, Elizabeth (CIV) (b) (6)
Cc: Hunt, Ted (ODAG) <(b) (6) Goldsmith, Andrew (ODAG) <(b) (6)
Subject RE Advisory Committee on Rules of Evidence, agenda materials for October 26 27, 2017 meeting

That looks very good. My suggestion in RED.

From: Shapiro, Elizabeth (CIV)
Sent: Tuesday, October 3, 2017 11:06 AM
To: Antell, Kira M. (OLP) <(b) (6)
Cc: Hunt, Ted (ODAG) <(b) (6) Goldsmith, Andrew (ODAG) <(b) (6)
Subject: FW: Advisory Committee on Ru Evidence, agenda materials for October 26 27, 2017 ng

Kira, Ted, Andrew: Below is a message from Dan Capra, reacting to the articles we've added to the materials:

"Reading the two articles you sent it seems as if you are preparing for some battle. The pcast report is just background. The conference is not about the pcast report. I am going to be really upset if all my work and preparation leads to a day long line by line fight over the pcast report."

I wanted to re pond to him a follow

(b) (5)

From: (b) (6) [mailto (b) (6)]
Sent: Tuesday, October 03, 2017 10:40 AM
To (b) (6); (b) (6) (b) (6); : Hur, Robert (ODAG) <(b) (6) >; (b) (6); (b) (6); (b) (6) (b) (6); : Shapiro beth (CIV) <(b) (6); (b) (6) (b) (6); (b) (6) u ; Brown, Angela M (ODAG) (b) (6); (b) (6)
Subject: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

Hi everyone,

Plea e find attached two additional article that relate to the report included at Tab 9C of the agenda book They have been added to the online version of the agenda materials as well.

Sincerely,

Bridget

Bridget Healy
Attorney Advisor
Office of General Counsel, Rules Committee Staff
[redacted]

Forwarded by Bridget Healy/DCA/AO/USCOURTS on 10/03/2017 09 31 AM

From Bridget Healy/DCA/AO/USCOURTS
To: [redacted] Patrick Tighe/AZD/09/USCOURTS@USCOURTS
Date: 09/29/2017 09:27 AM
Subject: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

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Dear Committee member and invited gue t ,

The agenda materials are now available on uscourts.gov at the following link: http://www.uscourts.gov/rules-policies/archives/agenda-books/advisory-committee-rules-evidence-october-2017. Please let our office know if you have any issues accessing or downloading the materials. We look forward to seeing you in Boston!

Sincerely,

Bridget Healy
Attorney Advi or
Office of General Counsel, Rules Committee Staff
[redacted]

Re: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

From: "Goldsmith, Andrew (ODAG)" <(b) (6)
To: "Antell, Kira M. (OLP)" <(b) (6)
Cc "Shapiro, Elizabeth (CIV)" (b) (6) "Hunt, Ted (ODAG)" (b) (6)
Date: Tue, 03 Oct 2017 11:16:52 -0400

I concur.

Sent from my iPhone - please excuse any typos.

On Oct 3, 2017, at 11:11 AM, Antell, Kira M. (OLP) <(b) (6) wrote:

Duplicative Material

(b) (6)

RE: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Shapiro, Elizabeth (CIV)" (b) (6)
Cc "Hunt, Ted (ODAG)" (b) (6) "Gold mith, Andrew (ODAG)" (b) (6)
Date: Mon, 02 Oct 2017 13:06:42 -0400

Thanks

From: Shapiro, Elizabeth (CIV)
Sent: Monday, October 2, 2017 12:53 PM
To Antell, Kira M (OLP) (b) (6)
Cc: Hunt, Ted (ODAG) <(b) (6) Goldsmith, Andrew (ODAG) <(b) (6)
Subject RE Advisory Committee on Rules of Evidence, agenda materials for October 26 27, 2017 meeting

Done. (b) (5) On the articles, the AO is going to send them out and append them to the written agenda materials

From: Antell, Kira M. (OLP)
Sent: Monday, October 02, 2017 9:38 AM
To: Shapiro, Elizabeth (CIV) < (b) (6)
Cc: Hunt, Ted (ODAG) < (b) (6) Gold Andrew (ODAG) < (b) (6)
Subject: RE: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

Fantastic (b) (5)

Would you please let him know we would be happy to provide a practitioner from one of the Department's labs who can speak to the modern practice of forensic science (accreditation, quality assurance, testimonial training, competency and proficiency testing) and answer any questions that people have about crime labs?

I don't yet know whether this person is available but you can suggest that depending on schedules, we would likely send Alice Isenberg, PhD, Assistant Director of the FBI Labs.

From: Shapiro, Elizabeth (CIV)
Sent Sunday, October 1, 2017 10 33 PM
To: Antell, Kira M. (OLP) < (b) (6)
Cc Hunt, Ted (ODAG) (b) (6) Goldsmith, Andrew (ODAG) (b) (6)
Subject: RE: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

I sent the articles to Dan, and requested that they be circulated to the group particularly because Budowle isn't coming and because he included the entire PCAST report in the agenda materials.

From: Antell, Kira M (OLP)
Sent: Friday, September 29, 2017 12:22 PM
To Shapiro, Elizabeth (CIV) (b) (6)
Cc: Hunt, Ted (ODAG) < (b) (6) Goldsmith, Andrew (ODAG) < (b) (6)
Subject Re Advisory Committee on Rules of Evidence, agenda materials for October 26 27, 2017 meeting

Betsy,

Can we get the budowle affidavit and the Evett article distributed? This was supposed to be a question for Judge Livingston that didn't happen. Can we go directly to Capra at this point?

Sent from my iPhone

On Sep 29, 2017, at 11:58 AM, Goldsmith, Andrew (ODAG) < (b) (6) wrote:

Thanks; note that the entire 170+ page PCAST report is included with the materials for the Symposium.

From: Hur, Robert (ODAG)
Sent: Friday, September 29, 2017 11:49 AM
To: Goldsmith, Andrew (ODAG) <[redacted] Hunt, Ted (ODAG) [redacted]
Cc: Crowell, James (ODAG) <[redacted] Shapiro, Elizabeth (CIV) <[redacted]
Subject FW Advisory Committee on Rules of Evidence, agenda materials for October 26 27, 2017 meeting

Andrew and Ted.

FYI.

Thanks.
Rob

From: [redacted] [mailto [redacted]
Sent: Fr day September 29, 2017 9:27 AM
To: [redacted] Hur, Robe ODAG <[redacted]; Shapiro, beth (CIV) <[redacted] Brown, Angela M. (ODAG) <[redacted]
Subject: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

Dear Committee member and invited gue t ,

The agenda materials are now available on uscourts.gov at the following link: http://www.uscourts.gov/rules-policies/archives/agenda-books/advisory-committee-rules-evidence-october-2017. Please let our office know if you have any issues accessing or downloading the materials. We look forward to seeing you in Boston!

Sincerely,

Bridget Healy
Attorney Advi or
Office of General Counsel, Rules Committee Staff
[redacted]

Re: Call with Judge Livingston

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Hunt, Ted (ODAG)" <(b) (6)
Date: Fri, 22 Sep 2017 09:47:52 -0400

How was the speech? Call me to debrief when you have a chance.

Sent from my iPhone

On Sep 22, 2017, at 9:47 AM, Hunt, Ted (ODAG) <(b) (6) wrote:

I'm out today as well, but can also call in.

From: Antell, Kira M. (OLP)
Sent: Friday, September 22, 2017 8:39 AM
To: Goldsmith, Andrew (ODAG) <(b) (6) >
Cc Shapiro, Elizabeth (CIV) (b) (6) ; Hunt, Ted (ODAG) (b) (6)
Subject: Re: Call with Judge Livingston

I'm teleworking today but if you want, I'm available at 11:45 to all in for the prep discussion. (b) (5) and I don't think it will be a deep dive but wanted to let you know in the event that you thought it would be helpful.

I note as well that we may want to mention our disappointment that a prominent scientist with a distinct and opposing view to PCAST (Budowle) ha had to drop out becau e of travel co t and that we will work with Capra to make ure that perspective is provided - at least through written materials.

Sent from my iPhone

On Sep 22, 2017, at 8:30 AM, Goldsmith, Andrew (ODAG) <(b) (6) wrote:

> I'll be speaking to the new AUSAs in the Great Hall from 9:45-11:30, but should be able to participate in the 11:45 prep e ion
>
> Sent from my iPhone - please excuse any typos.
>
> On Sep 21, 2017, at 1 48 PM, Hur, Robert (ODAG) (b) (6) wrote
>
> > Thanks, Andrew
> >
> > Looks like Kira is out of town. In her absence, could anyone else forward me the talkers? I'd like to review tonight if possible.
> >
> > Thanks,

Rob

From: Goldsmith, Andrew (ODAG)
Sent: Wednesday, September 20, 2017 11:05 PM
To: Hur, Robert (ODAG) (b) (6)
Cc: Hunt, Ted (ODAG) <(b) (6) Antell, Kira M. (OLP) <(b) (6) Shapiro, Elizabeth (CIV) <(b) (6) >; Crowell, James (ODAG) <(b) (6) >
Subject: Re: Call

Certainly Kira has prepared some TPs already that are excellent

On Sep 20, 2017, at 10:55 PM, Hur, Robert (ODAG) <(b) (6) > wrote:

> Hi all,
>
> I see that I'm scheduled to speak with Judge Livingston this Friday at noon. Just wanted to confirm that you'll be preparing talking points for me. Could we also convene a brief pre-meeting to make sure we're on the same page?
>
> Thanks,
>
> Rob
>
> -----Original Appointment-----
> **From:** Crowell, James (ODAG)
> **Sent** Monday, September 18, 2017 9 38 AM
> **To:** Crowell, James (ODAG); Hur, Robert (ODAG); Goldsmith, Andrew (ODAG); Hunt, Ted (ODAG); Antell, Kira M. (OLP); Shapiro, Elizabeth (CIV)
> **Subject:** Proposed Presentation on FRE Conference
> **When** Monday, September 18, 2017 3 30 PM 4 00 PM (UTC 05 00) Eastern Time (US & Canada)
> **Where:** Margolis Room, 4133 Main Justice
>
> Participants: Jim Crowell, Rob Hur, Andrew Goldsmith, Ted Hunt, Kira Antell, and Elizabeth Shapiro

RE: Call with Judge Livingston

From: "Hunt, Ted (ODAG)" <(b) (6)
To: "Antell, Kira M. (OLP)" <(b) (6) "Goldsmith, Andrew (ODAG)" <(b) (6)
Cc: "Shapiro, Elizabeth (CIV)" <(b) (6)
Date Fri, 22 Sep 2017 09 47 01 0400

I'm out today a well, but can al o call in

Duplicative Material

FW: Summary of Yesterday's Subcommittee Conference Call

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Hunt, Ted (ODAG)" <(b) (6)
Date: Thu, 12 Jul 2018 14:45:19 -0400

Hi Ted,

See outcome of yesterday. I'll be prepared to give greater detail tomorrow.

-K

From Daniel Capra (b) (6)
Sent Thursday, July 12, 2018 2:38 PM
(b)(6), email for Judge Schroeder; Antell, Kira M. (OLP); (b) (6) Shapiro, Elizabeth (CIV); (b) (6); Collins, Daniel <(b) (6); A. J. Kramer <(b) (6)>
Cc Joe Cecil (b) (6); (b)(6), email for Debra Livingston; Daniel Capra (b) (6)
Subject: Summary of Yesterday's Subcommittee Conference Call

The Subcommittee agreed on the following points:

Forensics

1. The proposal for a lengthy committee note on forensic evidence should be rejected. Such a note would go well beyond whatever textual change could be supported It would require significant scientific input and could run into the same controversies of sources and standards that arose with PCAST. And it would run the risk of becoming outmoded by scientific developments and developing forensic disciplines

2 The proposal for a freestanding amendment on forensic evidence should be rejected for a number of reasons
   Rule 702 was written to be malleable enough to cover all forms of expert testimony, and a specific rule would undercut that premise
   Defining the term "forensic" would be extremely difficult.
   While forensic experts should be subject to the same standards as all others, there is no reason to think that they should be subject to different or heightened standards.
   The rule risks becoming outmoded if it is too detailed, and ineffectual if it is too general

3 The proposal for a best practices manual should be rejected Unlike authenticity questions, questions of scientific reliability would test the competence of the preparer. Scientific input would be required, and as with the committee note alternative, there would be problems with staffing and input
Also, there are a number of treatises on the subject already, and the influence that a best practices manual would have, given that it cannot be the work of the Advisory committee itself, is not clear

4 The Subcommittee is interested, however, in providing assistance to Joe Cecil as he oversees preparation of the new FJC manual on forensic evidence.

5. The Subcommittee is interested in supporting judicial education efforts of the FJC on forensic evidence. A letter to the FJC expressing the need for judicial education on forensic eviddnce should be drafted

6 The Subcommittee will continue to explore the possibility of an amendment to Rule 702 that will deal with the problem of overstatement of an expert's conclusions. This amendment would not be limited to forensic expert testimony Drafting such an amendment requires further thought and discussion The major questions are

   a whether it should be cast in terms of "probative value" or some other iteration such as "inference or conclusion"; and
   b whether it should be stated negatively (do not overstate) or positively (must accurately state)

   The Reporter will work on these alternatives and provide detailed working draft alternatives for the next conference call.

7. The Subcommittee will continue to work with the Criminal Rules subcommittee that is exploring changes to Rule 16 Consideration will be given at the next meeting to some formal expression of support for an amendment that would bring Rule 16 closer to the civil rule on experts.

Rule 702 admissibility/weight

The Subcommittee will continue to explore the possibility of amending the rule to emphasize that sufficiency of basis and reliable application are questions of admissibility and not weight --- the complication being that amending a rule to tell the courts to obey the existing rule is a novel exercise.

The Reporter will set forth the case law on the subject in detail, to assist the Subcommittee in determining whether an amendment is workable.

One of the authors of the article that highlighted the problem will be invited to the roundtable discussion at the October meeting of the Advisory committee.

The Reporter will contact the reporter of civil rules, and the civil rules liaison, to inform them of the Subcommittee's inquiry and to ask about the possible impact on civil litigation.

Procedural Details

Kira and Betsy have agreed to provide the Subcommittee the DOJ's paper on fingerprint evidence as well as any other statements of protocols/standards it has adopted for expert evidence.

Next conference call: Tuesday August 28 at 2:00.

Please let me know if you have any questions, comments, or additions. Best regards.

Daniel J. Capra
Reed Professor of Law
Fordham Law School
New York, New York
(b) (6)

Capra's Slides on FRE

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Hunt, Ted (ODAG)" <(b) (6) "Goldsmith, Andrew (ODAG)" <(b) (6)
Cc: "Shapiro, Elizabeth (CIV)" <(b) (6) >
Date: Wed, 23 Aug 2017 18:26:08 -0400
Attachment Foren ic Conference Pre entation on Rulemaking option ppt (106 04 kB)

Hi Ted Andrew,

Betsy just got Capra's slides from the Baltimore conference. He says he does not plan to circulate them at the meeting but doe plan to circulate at lea t ome of them at the foren ic conference It i al o till unclear whether there i one enormous panel or multiple panels moderated by different people. We were initially led to understand that there were three panels but now it seems there may be just one panel -- trying to get clarity on this.

K

Kira Antell
Senior Counsel
Office of Legal Policy
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530
(b) (6)
(b) (6)

RULEMAKING POSSIBILITIES: EFFORTS OF THE U.S. JUDICIAL CONFERENCE ADVISORY COMMITTEE ON EVIDENCE RULES TO ADDRESS THE RECENT CHALLENGES TO FORENSIC EXPERT TESTIMONY

Daniel J. Capra
Reed Professor of Law
Fordham Law School
Reporter to the Advisory Committee on Evidence Rules

EVIDENCE RULEMAKING IN THE U.S.

- Congress delegated rulemaking power to the Supreme Court --- Judicial Conference Committees, including the Rules Committee.
- Five Advisory Committees, Including Evidence.
- Rule proposal proceeds from Advisory Committee, to Rules Committee, public comment, Judicial Conference, and Supreme Court.
- Inaction by Congress means enactment of a rule.
- It takes a long time.

RULEMAKING CONSTITUENCIES

- Courts --- rules should be easy to apply, with heaps of discretion.
- Justice Department --- rules should work in their favor.
- Litigants --- rules should work in their favor.
- Academics --- rules should be theoretically sound and easy to teach, and written by "me".
- Rulemakers --- rules should be easy to understand and should stand the test of time.

CHALLENGES OF RULEMAKING

- Level of detail:
  - Lists of Factors?
  - Commonly recurring specific applications of a general rule?
    - Detailed Committee Notes
  - The story of the 2000 Amendment to Rule 702.
  - Rules Committee Change in Policy on Committee Notes.
  - PCAST suggestion --- Committee Note without a rule change.

WRITING A RULE ON FORENSIC EXPERT TESTIMONY

- Is it necessary to add anything? See PCAST Report.
- 1. Foundational Validity --- Federal Rule 702(c) provides that the testimony must be the product of "reliable principles and methods."
- 2000 Committee Note looks at "[w]hether the field of expertise claimed by the expert is known to reach reliable results for the type of opinion the expert would give."
- 2. Validity as Applied --- Federal Rule 702(d) requires that the expert has "reliably applied the principles and methods to the facts of the case."

WRITING A RULE ON FORENSIC EXPERT TESTIMONY

- **Arguments in favor of going beyond the existing rule and Committee Note:**

- **Courts not taking the existing (intervening) regime seriously, perhaps because it is too generalized.**
- **Reports from PCAST, etc. are not controlling.**
- **Existing rule and comment do not specifically address the problem of expert overstatement of results.**

DRAFTING CHALLENGES

- Definition of "forensic"?
- Overlap with the existing rule:

Rule 702. Testimony by Expert Witnesses

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

(a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

(b) the testimony is based on sufficient facts or data;

(c) the testimony is the product of reliable principles and methods; and

(d) the expert has reliably applied the principles and methods to the facts of the case.

DRAFTING CHALLENGES

- **Adding a new subdivision (e) results in specific add-on requirements to a general statement of law.**

- **Recalibrating Rule 702 would upset electronic searches.**

EXAMPLE --- AN AMENDED RULE 702

- **Rule 702. Testimony by Expert Witnesses**
- **(a) In General. A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:**
  - **(1) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;**
  - **(2) the testimony is based on sufficient facts or data;**
  - **(3) the testimony is the product of reliable principles and methods; and**
  - **(4) the expert has reliably applied the principles and methods to the facts of the case.**
- **(b) Forensic Expert Witnesses. If a witness is testifying on the basis of a forensic examination [conducted to determine whether an evidentiary sample is similar or identical to a source sample] [or: "testifying to a forensic identification"], the proponent must prove the following in addition to satisfying the requirements of Rule 702(a):**
  - **(1) the witness's method is repeatable, reproducible, and accurate --- as shown by empirical studies conducted under conditions appropriate to its intended use;**
  - **(2) the witness is capable of applying the method reliably and actually did so; and**
  - **(3) the witness accurately states the probative value of [the meaning of] any similarity or match between the samples.**

A POSSIBLE RULE 702(b)

- (b) Forensic Expert Witnesses. If a witness is testifying on the basis of a forensic examination [conducted to determine whether an evidentiary sample is similar or identical to a source sample], [or: "testifying to a forensic identification"], the proponent must prove the following in addition to satisfying the requirements of Rule 702(a):
- (1) the witness's method is repeatable, reproducible, and accurate --- as shown by empirical studies conducted under conditions appropriate to its intended use;
- (2) the witness is capable of applying the method reliably and actually did so; and
- (3) the witness accurately states the probative value of [the meaning of] any similarity or match between the samples.

A FREESTANDING RULE ON FORENSIC EXPERT TESTIMONY

- **Rule 707. Testimony by Forensic Expert Witnesses. If a witness is testifying on the basis of a forensic examination [conducted to determine whether an evidentiary sample is similar or identical to a source sample], [or: "testifying to a forensic identification"] the proponent must prove the following in addition to satisfying the requirements of Rule 702:**
  - **(a) the witness's method is repeatable, reproducible, and accurate --- as shown by empirical studies conducted under conditions appropriate to its intended use;**
  - **(b) the witness is capable of applying the method reliably and actually did so; and**
  - **(c) the witness accurately states the probative value of [the meaning of] any similarity or match between the samples.**

COMMITTEE NOTE ISSUES

- Defining "Forensic" --- not intended to cover lay identification.
- Discussion of objective and subjective processes --- and that with subjective processes there must be "black box" testing and an established rate of accuracy.
- Rejecting forensic methods such as bitemarks?
- Comment (or text) on reasonable degree of certainty.
- Expert must provide information on rate of error.

DOJ PROBLEMS

- **DOJ is likely to be opposed to any rule that contemplates treating all forensic testimony under the rigors of science.**

- **Recent statement by Assistant A.G. --- "We should not exclude reliable forensic analysis — or any reliable expert testimony — simply because it is based on human judgment."**

BEST PRACTICES MANUAL ALTERNATIVE

- **PCAST suggestion --- essentially could track the PCAST report but distill it and have a step-by-step for admissibility.**
- **Advisory Committee will not issue a Best Practices Manual.**
- **Could reach an influential target audience and would have an Advisory Committee origin.**
- **But probably most effective in accompaniment with rulemaking, not in substitution.**

FW: summary of today's conference call

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Hunt, Ted (ODAG)" <(b) (6)
Date: Wed, 29 Aug 2018 07:34:19 -0400
Attachment Minute of Rule 702 ubcommittee conference call 2 doc (14 53 kB)

Hi Ted,

Attached is Capra's summary of the Subcommittee call.

Thank ,
Kira

From: Daniel Capra <(b) (6) >
Sent Tuesday, August 28 2018 5 22 PM
To Thomas Schroeder <(b) (6) >; Debra Livingston (b) (6) Collins Daniel (b) (6) A J Kramer (b) (6) ; Shapiro, Elizabeth (CIV) <(b) (6) Antell, Kira M. (OLP) <(b) (6)
Cc Joe Cecil (b) (6) ; Timothy Lau (b) (6)
Subject: summary of today's conference call

Attached

Daniel J. Capra
Reed Professor of Law
Fordham Law School
New York New York
(b) (6)

Minutes of Rule 702 subcommittee conference call, August 28, 2018.

Here is a summary of the subcommittee's discussion:

Weight/Admissibility

1. Members discussed the fact that courts are definitely making statements that are wrong under Rule 702, e.g., the question of application of a method is one of weight and not admissibility. But it is more difficult to determine whether Rule 702 has been incorrectly applied in any particular case. That is because trial courts are not saying whether they are applying a Rule 104(a) or (b) standard. And a court that says, "this dispute about the expert's basis is a question of weight" may still be applying the Rule 104(a) standard, because questions of weight arise even under the preponderance standard.

2. The subcommittee is concerned that an amendment might not fix the problems that are seen in the cases regarding admissibility and weight. This is especially so because in many of the cases, the trial court may well be applying a preponderance standard regardless of the broad statements by an appellate court or even by the trial court itself.

3. The subcommittee remains concerned about the broad misstatements of the law in some of the cases, and encourages further discussion on whether an amendment might be a useful way to alert the courts to focus on applying the preponderance standard. An amendment might also be useful in getting courts to actually articulate the standard of proof that they are relying on.

4. Another possibility is to target educational efforts at the circuits that are making the broad and incorrect statements of law.

Overstatement (Forensics)

1. The subcommittee agreed that prohibiting overstatement is an important goal, especially with regard to forensic experts. But an amendment targeted specifically toward forensic experts would be difficult to draft and would possibly raise negative inferences about coverage of experts in civil cases.

2. With respect to civil cases, the subcommittee determined that it needs more information to determine how an overstatement limitation would work. One issue is that different fields have different standards on when a conclusion will be overstated. It was concluded that it would be useful to get input from experts on scientific issues that arise in civil cases. Those experts might be able to give an opinion on whether overstatement is a problem in those cases, and on whether a rule prohibiting overstatement would be workable.

3. Consideration should also be given to the fact that overstatement is intertwined with sufficient basis and application, especially in civil cases. On the one hand, adding language about overstatement might help to emphasize that questions of basis and application are important. On the other, it might further complicate the inquiry.

4. A suggestion was made, as to forensics, that the focus on overstatement should be narrowed to testimony that overstates mathematical probability or understates a rate of error. That narrowing would be in accord with the new DOJ guidelines. The Reporter will consider how such an alternative might be drafted in rule form.

5. A suggestion was made to contact lawyers and judges involved in PCAST to get their views on a possible rule change that would prohibit overstatement. The reporter will work on that.

Procedural Details

1. Suggestions were made to add more participants to the roundtable discussion that will occur before the next Committee meeting --- including a judge with scientific expertise.

2. The next conference call, on September 17, will be dedicated to the presentation of a case file by an FBI expert.

RE: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Shapiro, Elizabeth (CIV)" (b) (6)
Cc "Hunt, Ted (ODAG)" (b) (6) "Gold mith, Andrew (ODAG)" <(b) (6)
Date Sat, 30 Sep 2017 16 28 11 0400
Attachments: Evett et al, Finding the Way Forward, FS International (2017).pdf (418.04 kB); Budowle Response to PCAST Report 06 17 2017 (002) pdf (521 58 kB)

Thanks Betsy.

These are the two pieces I mentioned. It is not sufficient to share copies at the meeting. I believe they must be distributed in advance. Right now, based on the reporter's distribution, the conference attendees might believe the entire scientific community is in agreement with the PCAST report. This is inaccurate.

Thanks,
Kira

From: Shapiro, Elizabeth (CIV)
Sent: Friday, September 29, 2017 1:44 PM
To: Antell, Kira M. (OLP) (b) (6)
Cc: Hunt, Ted (ODAG) <(b) (6) dsmith, Andrew (ODAG) <(b) (6)
Subject: RE: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

Yes. I will definitely ask for that. I can bring copies myself, too.

From: Antell, Kira M (OLP)
Sent: Friday, September 29, 2017 12:22 PM
To Shapiro, Elizabeth (CIV)
Cc: Hunt, Ted (ODAG) < (b) (6) Goldsmith, Andrew (ODAG) < (b) (6)
Subject Re Advisory Committee on Rules of Evidence, agenda materials for October 26 27, 2017 meeting

Betsy,

Can we get the budowle affidavit and the Evett article distributed? This was supposed to be a question for Judge Livingston that didn't happen. Can we go directly to Capra at this point?

Sent from my iPhone

On Sep 29, 2017, at 11:58 AM, Goldsmith, Andrew (ODAG) < (b) (6) wrote:

> Thank ; note that the entire 170+ page PCAST report i included with the material for the Sympo ium.
>
> **From:** Hur, Robert (ODAG)
> **Sent:** Friday, September 29, 2017 11:49 AM
> **To** Goldsmith, Andrew (ODAG) (b) (6) ; Hunt, Ted (ODAG) (b) (6)
> **Cc:** Crowell, James (ODAG) < (b) (6) >; Shapiro, Elizabeth (CIV)
> **Subject** FW Advisory Committee on Rules of Evidence, agenda materials for October 26 27, 2017 meeting
>
> Andrew and Ted,
>
> FYI.
>
> Thanks.
> Rob
>
> **From:** (b)(6), email for Bridget Healy [mailto (b) (6)]
> **Sent:** Fr day September 29, 2017 9:27 AM
> **To:** (b)(6), email for Debra Livingston (b) (6); (b)(6), email for Capra (b) (6); (b)(6), email for James Bassett (b) (6);

(b)(6), email for Daniel Collins(b) (6); Hur, Robert (ODAG) (b) (6); (b)(6), email for AJ Krame (b) (6); (b)(6), email for Traci Lovitt(b) (6); (b)(6), email for Marten (b) (6); (b)(6), email for Shelly Dick (b) (6); (b)(6), email for Thomas Schroeder (b) (6); (b)(6), email for Liesa Richt (b) (6); (b)(6), email for William Sessions
Cc (b)(6), email for James Dever (b) (6); (b)(6), email for Lyndsay Hayes(b) (6) (b) (6) (b)(6), email for Sara Lioi (b) (6); Shapiro, Elizabeth (CIV) < (b) (6) >; (b)(6), email for David Campbell (b) (6);
(b)(6), email for Nancy Outley (b) (6); (b)(6), email for Daniel Coquillette (b) (6); (b)(6), email for Daniel Coquillette (b) (6); (b)(6), email for Dalbec(b) (6);
(b)(6), email for Barbara Alcon (b) (6); (b)(6), email for Kathy Stephenson (b) (6); (b)(6), email for Jeanette Santos (b) (6);
(b)(6), email for Krystle Dalke (b) (6); (b)(6), ema Brown, Angela M. (ODAG) (b) (6);
(b)(6), email for Rebecca Womeldorf (b) (6); (b)(6), email for Patrick Tighe
Subject Advisory Committee on Rules of Evidence, agenda materials for October 26 27, 2017 meeting

Dear Committee members and invited guests,

The agenda materials are now available on uscourts.gov at the following link: http://www.uscourts.gov/rules-policies/archives/agenda-books/advisory-committee-rules-evidence-october-2017. Please let our office know if you have any issues accessing or downloading the materials. We look forward to seeing you in Boston!

Sincerely,

Bridget Healy
Attorney Advisor
Office of General Coun el, Rule Committee Staff
(b) (6)
(b) (6)

RE: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

From: "Shapiro, Elizabeth (CIV)" (b) (6)
To: "Antell, Kira M. (OLP)" <(b) (6)
Cc "Hunt, Ted (ODAG)" (b) (6) "Gold mith, Andrew (ODAG)" (b) (6)
Date: Tue, 03 Oct 2017 11:12:50 -0400

Perfect. Thanks Kira.

From: Antell, Kira M (OLP)
Sent: Tuesday, October 03, 2017 11:11 AM
To Shapiro, Elizabeth (CIV) (b) (6)
Cc: Hunt, Ted (ODAG) <(b) (6) Goldsmith, Andrew (ODAG) <(b) (6)
Subject RE Advisory Committee on Rules of Evidence, agenda materials for October 26 27, 2017 meeting

That looks very good. My suggestion in RED.

From: Shapiro, Elizabeth (CIV)
Sent: Tuesday, October 3, 2017 11:06 AM
To: Antell, Kira M. (OLP) <(b) (6)
Cc: Hunt, Ted (ODAG) <(b) (6) Goldsmith, Andrew (ODAG) <(b) (6)
Subject: FW: Advisory Committee on Ru Evidence, agenda materials for October 26 27, 2017 ng

Kira, Ted, Andrew: Below is a message from Dan Capra, reacting to the articles we've added to the materials:

"Reading the two articles you sent it seems as if you are preparing for some battle. The pcast report is just background. The conference is not about the pcast report. I am going to be really upset if all my work and preparation leads to a day long line by line fight over the pcast report."

I wanted to re pond to him a follow

(b) (5)

From: (b)(6), email for Bridget Healy [mailto (b) (6)]
Sent: Tuesday, October 03, 2017 10:40 AM
To (b)(6), email for Debra Livingston (b) (6); (b)(6), email for Capra (b) (6); (b)(6), email for James Bassett (b) (6); (b)(6), email for Daniel Collins (b) (6); Hur, Robert (ODAG) < (b) (6) >; (b)(6), email for AJ Kramer (b) (6); (b)(6), email for Traci Lovitt (b) (6); (b)(6), email for Marten (b) (6); (b)(6), email for Shelly Dick (b) (6); (b)(6), email for Thomas Schroeder (b) (6); (b)(6), email for Liesa Richter (b) (6); (b)(6), email for William Session (b) (6)
Cc (b)(6), email for James Dever (b) (6); (b)(6), email for Lyndsay Haye (b) (6); (b)(6), email for Sara Lioi (b) (6); Shapiro Elizabeth (CIV) < (b) (6) >; (b)(6), email for David Campbell (b) (6); (b)(6), email for Nancy Outley (b) (6); (b)(6), email for Daniel Coquilette (b) (6); (b)(6), email for Daniel Coquilette (b) (6); (b)(6), email for Dalbec (b) (6); (b)(6), email for Barbara Alcon (b) (6); (b)(6), email for Kathy Stephenson (b) (6); (b)(6), email for Jeanette Santos (b) (6); (b)(6), email for Krystle Dalke (b) (6); (b)(6), email for Lau (b) (6) Brown, Angela M (ODAG) (b) (6) ; (b)(6), email for Rebecca Womeldorf (b) (6); (b)(6), email for Patrick Tighe (b) (6)
Subject: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

Hi everyone,

Plea e find attached two additional article that relate to the report included at Tab 9C of the agenda book They have been added to the online version of the agenda materials as well.

Sincerely,

Bridget

Bridget Healy
Attorney Advisor
Office of General Counsel, Rules Committee Staff
(b) (6)
(b) (6)

Forwarded by Bridget Healy/DCA/AO/USCOURTS on 10/03/2017 09 31 AM

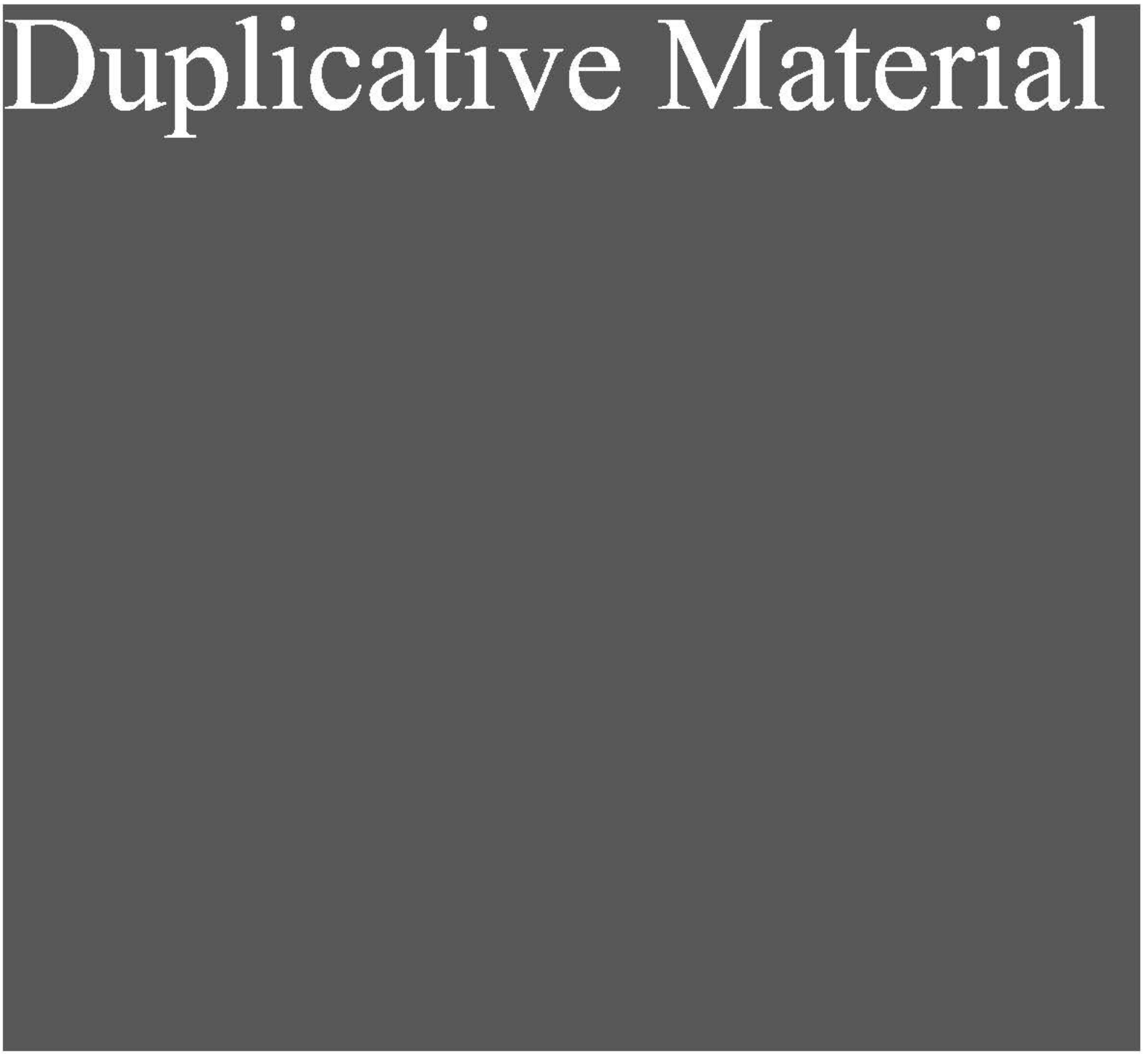
Re: Advisory Committee on Rules of Evidence, agenda materials for October 26-27, 2017 meeting

From: "Goldsmith, Andrew (ODAG)" <(b) (6)
To: "Antell, Kira M. (OLP)" <(b) (6)
Cc "Shapiro, Elizabeth (CIV)" (b) (6) "Hunt, Ted (ODAG)" (b) (6)
Date: Tue, 03 Oct 2017 11:16:52 -0400

I concur.

Sent from my iPhone - please excuse any typos.

On Oct 3, 2017, at 11:11 AM, Antell, Kira M. (OLP) <(b) (6) wrote:



FW: PCAST

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Hunt, Ted (ODAG)" <(b) (6)
Date: Tue, 20 Feb 2018 09:31:49 -0500
Attachment STRmi brief pdf (236 06 kB)

From: Goodhand, David (CRM)
Sent: Tuesday, February 20, 2018 9:31 AM
To: Antell, Kira M. (OLP) <(b) (6)
Cc: Ambrosino, Michael (U (b) (6) >
Subject: FW: PCAST

From Presant, Justin M (USAMIW) [mailto (b) (6)]
Sent: Tuesday, February 20, 2018 9:24 AM
To Goodhand, David (CRM) (b)(6), (b)(7)
Subject: RE: PCAST

David,

Here is the brief. It was filed on 2/15, but stamped 2/16 because that's when the judge granted our motion to file a long brief Thank again for con ulting with me

Justin

Ju tin M Pre ant
Assistant United States Attorney
Criminal Division
U.S. Attorney's Office for the Western District of Michigan
330 Ionia Avenue NW, Suite 501
P.O. Box 208
Grand Rapids, MI 49501
Direct: (b) (6)
Fa (b) (6)

From Goodhand, David (CRM) [(b)(6), (b)]
Sent: Friday, January 12, 2018 3:46 PM
To Presant, Justin M (USAMIW) (b) (6)
Subject: PCAST

Justin
Have you filed your PCAST related pleading yet?

If so, might you send me a copy?

Thanks,
David Goodhand

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

v.

No. 17-cr-130

DANIEL GISSANTANER,

HON. JANET T. NEFF
United States District Judge

Defendant.
_____/

UNITED STATES' BRIEF IN OPPOSITION TO DEFENDANT'S MOTION TO EXCLUDE DNA ANALYSIS

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Cases

Other Authorities

Rules

The defendant has moved to exclude the DNA analysis conducted by the Michigan State Police ("MSP") on swabs collected from the defendant and from a firearm seized from the defendant's home. The MSP analysis concluded that the DNA profile on the swab from the firearm was 49 million times more likely to be found if it contained the defendant's DNA than if it did not. Recognizing the significance of this evidence to the government's case, the defendant adopts a kitchen-sink approach to attempt to keep the evidence from the jury, arguing that the Battle Creek Police Department ("BCPD") mishandled the evidence, that the MSP laboratory did not use the analysis software, STRmix, properly, that the software is not a reliable tool for determining likelihood ratios, and that likelihood ratios themselves are improper. None of these arguments warrants exclusion of the evidence.

I. FACTUAL BACKGROUND

On September 25, 2015, officers from the BCPD responded to a 911 call in which the caller reported a man with a gun. The officers eventually determined the caller was a woman, Lisa Harvey, whose boyfriend, Gary Rose, was in the process of moving in with her. Gissantaner, the couple's neighbor, and Rose had had an altercation about the location of Rose's trailer on a shared driveway. In his initial statement to the police, Rose said that during the argument Gissantaner said something like, "I've got something for you," entered his house, came back out, and pulled a "dark object" from his waistband. Rose reported that because it was nighttime, he could not tell exactly what the object was, but he thought it was a gun. Rose later said that he saw Gissantaner pointing a gun at him.

The police interviewed one of Gissantaner's roommates, Cory Patton, who was, like Gissantaner, also a convicted felon. In his initial statement, Patton said that he heard a fight, went outside, and took the gun away from Gissantaner. He later said that he never saw

Gissantaner with the gun, but he heard a fight, and then found a gun he had never seen before on their shared kitchen counter. Patton consented to a search of a chest in his bedroom, where police seized the gun in question. Patton indicated he put the gun there for safekeeping because children lived in the home.

The police swabbed the gun and Gissantaner for DNA and submitted the samples to a lab for comparison. The lab concluded that the swab from the gun contained a mixture of DNA, and, using the STRmix software package, determined that there was "very strong support that Daniel Gissantaner is a contributor to the DNA profile developed from the swab from" the gun, (formally, the lab concluded "it is at least 49 Million times more likely if the observed DNA profile from the swabs of textured areas of GUN-001 originated from Daniel Gissantaner and two unrelated, unknown contributors than if the data originated from three unrelated, unknown individuals"). (PageID.920.)

A federal grand jury indicted the defendant for being a felon in possession of a firearm, and this motion followed.

II. LEGAL STANDARD

In *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993), the Supreme Court enunciated the framework to be used by district courts in performing the gatekeeping function of protecting the jury from junk science. "[U]nder the [Federal Rules of Evidence] the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable." *Id.* at 589. *Daubert* teaches that the trial judge must first ensure that the testimony encompasses "'scientific knowledge'" that is "supported by appropriate validation—*i.e.*, 'good grounds,' based on what is known." *Id.* at 590. Second, "the evidence or testimony [must]

'assist the trier of fact to understand the evidence or to determine a fact in issue.'" *Id.* at 591 (quoting Fed. R. Evid. 702).

The Supreme Court outlined some of the "factors [that] bear on the inquiry," carefully noting that the Court did "not presume to set out a definitive checklist or test." *Id.* at 593. First, the trial court should examine "whether a theory or technique . . . can be (and has been) tested." *Id.* Second, the court reviews whether it "has been subjected to peer review and publication." *Id.* Third, the court should discern "the known or potential rate of error and the existence and maintenance of standards controlling the technique's operation." *Id.* at 594 (citation omitted). Finally, the trial judge should consider the old standard under *Frye v. United States*, 293 F. 1013 (1923), "general acceptance" within the scientific community. *See id.* The *Daubert* factors can "be tailored to the facts of a particular case" and are not always dispositive, because the inquiry is flexible. *In re Scrap Metal Antitrust Litig.*, 527 F.3d 517, 529 (6th Cir. 2008).

III. ARGUMENT

Gissantaner's attacks on the DNA evidence can be separated into two groups: those directed to the scientific analysis in the case—both theoretical, and as applied—and those alleging police incompetence and implying malfeasance. Both groups of arguments fail to justify exclusion of the evidence, and the latter set are premature, as they are for the jury.

A. STRmix Is a Valid Tool for Analyzing Mixtures of DNA and Was Used Properly in this Case

Probabilistic genotyping in general, and STRmix in particular, represent a significant development in forensic science because STRmix allows for the calculation of a likelihood ratio for a specific defendant's DNA being in a mixture, a complicated mathematical problem that was not practically solvable until earlier this decade. In that sense it is new. But, as with almost all scientific developments, it is not a watershed theory or entirely novel concept. *See generally*

Thomas S. Kuhn, *The Structure of Scientific Revolutions* (2d ed. 1962) (excerpt attached as Ex. 1)[1] (explaining that science usually progresses during normal, puzzle-solving phases, rarely interrupted by a revolutionary phase). Instead, it is built on established mathematical, chemical, and genetic principles, and combines those principles in such a way to achieve something that was previously unachievable. In that sense there is nothing new about it at all.

1. Probabilistic Genotyping Is an Interdisciplinary Application of Advanced Statistical Methods to Population Genetics

As even Gissantaner acknowledges, traditional forensic DNA analysis has been accepted as reliable in federal courtrooms for at least twenty-five years. The power of forensic DNA comparison is ubiquitous to the point where it has infiltrated popular culture. In large part that power is attributable to statistics; it is highly improbable to find two individuals with the same genetic profile, unless they are identical twins. That improbability is often expressed as a likelihood ratio, which is simply the relative likelihoods of two mutually exclusive hypotheses (for example, Gissantaner was a contributor to the DNA mixture found on the gun, and Gissantaner was not a contributor).[2]

Forensic DNA comparison does not analyze a person's entire genome, which comprises three billion base pairs, in part because the labor associated with whole genome sequencing has been historically cost-prohibitive and is ultimately unnecessary. By comparing small, agreed upon regions of the genome, forensic scientists are able to determine likelihood ratios that are sufficiently high such that all reasonable people would agree that the samples for comparison are

[1] The government has attached to its briefs those exhibits not readily accessible via a legal database such as Westlaw or via the internet.

[2] Likelihood ratios are used not only for forensic analysis in criminal investigations, but also in paternity index calculations. Another common statistic used in forensic DNA analysis is the random match probability, which is a type of likelihood ratio (although a likelihood ratio is not necessarily a random match probability).

a "match." *See, e.g.*, Michael J. Saks et al., *Reference Guide on DNA Evidence*, *Reference Manual on Scientific Evidence* 491 (Federal Judicial Center, 2d ed. 2000). The small, agreed upon regions of the genome used most often today are called short tandem repeats, or "STRs." The region at which a particular STR is found is called a locus. The particular gene that an individual has at a locus—in the case of STRs, a specific number of repeats—is called an allele. STRs are useful features for comparison because while every person has STRs at the loci, there is variation in the number of repeats in a given STR for each person (that is, different people can have different alleles), and the range of variation is known by population studies. *See id.* at 495–98.

For example, one locus used in forensic STR analysis is D7S820. At that locus, the STR is GATA, a representational acronym for the bases guanine, adenine, thymine, and adenine again. Humans have from anywhere between five and sixteen repeats of the GATA STR on each chromosome. *See* National Institute of Standards and Technology ("NIST"), STRBase, D7S820, http://strbase.nist.gov/str_D7S820.htm (last visited Feb. 14, 2018). Gissantaner's allele has ten repeats, and only ten repeats, meaning both his mother and father contributed the same allele to him. (*See* Ex. 2: STRmix Electropherogram, at 1.)

Given the natural variation of repeats at each STR locus, by looking at a sufficiently large number of loci, it is highly improbable that any two people who are not identical twins would have the exact same profile. The FBI at one point used thirteen core loci, and in 2017 increased that number to twenty. FBI, Combined DNA Index System, https://www.fbi.gov/services/laboratory/biometric-analysis/codis (last visited Feb. 14, 2018); NIST, FBI CODIS Core STR Loci, http://strbase.nist.gov/fbicore.htm. The MSP laboratory attempts amplification of STRs at 24 loci. (PageID.957.) The relative likelihood between the

unknown evidentiary sample's DNA matching the known defendant's reference sample because they are one and the same, and simply matching it by chance, is expressed as a likelihood ratio. *See, e.g.*, Saks, *supra*, at 520–37.

Each of a person's twenty-three pairs of chromosomes comprise one chromosome from the mother, and one from the father. Therefore, at each locus, where only one DNA profile is found on the evidentiary sample, an analyst would expect to see either one or two signal peaks.[3] (As with Gissantaner's D7S820 locus, where both chromosomes have the same number of repeats, only one peak will show.) Where, however, three or more called peaks appear at a locus, the analyst knows the unknown profile usually contains a mixture of DNA.

What is at issue in Gissantaner's motion is not the reliability of the chemical process that leads to the electropherogram. He cannot and does not seriously dispute DNA extraction, or PCR amplification, or capillary electrophoresis—all processes that were accepted as reliable components of DNA analysis a long time ago.[4] *See, e.g.*, Saks, *supra*, at 497–500. Instead, he

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[3] The "peaks" are found on electropherograms, which are the output of a process called capillary electrophoresis. Though not at issue in this motion (save for undeveloped and incredible arguments raised by Gissantaner that are addressed in footnote 4 below), the process for obtaining a DNA profile for analysis begins with taking a swab from the source. The swab is dissolved in a buffer, and then the cells are lysed and the DNA released into solution. Prefabricated primers (molecules that are a series of bases used to prime the right loci for amplification) are added to the solution, and a polymerase chain reaction leads to the replication, or amplification, of the loci containing the STRs. The length of each STR is then measured based on the distance it travels in the capillary under an electric field, and the resulting read-out shows the peaks in the electropherogram. Either an analyst, or the software, can "call" peaks to differentiate signal from noise. Noise, by way of example, can come from artifacts of the PCR process that result in small peaks not indicative of actual alleles. (PageID.940–41, 951–67.) *See* Saks, *supra*, at 497–99, 563–66.

[4] Gissantaner takes passing shots at a few biological and chemical aspects of DNA analysis that have long been accepted. Gissantaner criticizes capillary electrophoresis as "an automated process using a genetic analyzer that does not involve first-hand visual interpretation," unlike the gel electrophoresis used in *United States v. Bonds*, 12 F.3d 540 (6th Cir. 1993), and he likewise goes after PCR amplification. (PageID.768.) But Gissantaner uses *Bonds* as a straw man. Aside from its general recognition of the validity of DNA analysis, the

contests only the interpretation of the output of those chemical processes using probabilistic genotyping and STRmix.

The math to determine the likelihood ratio is more involved when the unknown sample contains more alleles than can be explained by a single contributor. But longstanding mathematical tools are available to solve that math problem. Probabilistic genotyping employs the Monte Carlo statistical method to derive a likelihood ratio that describes the comparative likelihoods of the reference sample being contained in the mixture and the profile of the reference sample appearing in the mixture by chance. *See* STRmix, https://strmix.esr.cri.nz (last visited Feb. 14, 2018) ("A range of Likelihood Ratio options are provided for subsequent comparisons to reference profiles. Using a Markov Chain Monte Carlo engine, STRmix™ models allelic and stutter peak heights (both back and forward stutter) as well as drop-in and

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extended discussion of *Bonds* is inapt because of the tremendous advancement in DNA analysis in the 25 years since that case was decided and relatedly because the method of analysis at issue in this case is concededly different than that reviewed by the Sixth Circuit in *Bonds*. (PageID.768–69.) Gissantaner's undeveloped remarks denigrating PCR amplification and capillary electrophoresis—in short that seeing is believing and the technology is not to be trusted because it cannot be visually seen—misses the mark. The argument is absurd precisely because of the scientific advancements that followed *Bonds*. It is akin to criticizing smartphones as compared to rotary phones because the numbers cannot be felt as they are dialed. Capillary electrophoresis is a faster, more accurate version of its gel predecessors. *See, e.g.*, Saks, *supra*, at 566 ("[C]apillary electrophoresis . . . . is faster and uses smaller samples than gel electrophoresis, and it can be automated."). And PCR amplification is used every day in academic settings around the world. *See id.* at 500 ("[T]he existence of PCR-based procedures that can ascertain genotypes accurately cannot be doubted."); Wikipedia, Polymerase chain reaction, https://en.wikipedia.org/wiki/Polymerase_chain_reaction (last visited Feb. 14, 2018) ("PCR is now a common and often indispensable technique used in clinical and research laboratories for a broad variety of applications."). In the same vein of these anachronistic swipes at DNA technology, Gissantaner's antiscientific knock on the cellular source of DNA—it seems he favors blood over epithelial cells, (PageID.768)—likewise is misplaced, because each cell type contains an identical copy of a person's DNA, with some exceptions not relevant here. *See, e.g.*, National Institute of Health, National Human Genome Research Institute, 2009 National DNA Day Online Chatroom Transcript, Question 153, https://www.genome.gov/dnaday/q.cfm?aid=153&year=2009 (last visited Feb. 14, 2018) (answering a question from a ninth-grade student by stating in part, "All the cells in a person's body have the same DNA and the same genes.").

drop out behaviour. . . . STRmix™ is supported by comprehensive empirical studies with its mathematics readily accessible to DNA analysts, so results are easily explained in court.").

In short, probabilistic genotyping is an application of established principles in a new way. For that reason, it should readily survive Gissantaner's challenge.

2. STRmix Reliably Implements Probabilistic Genotyping

Gissantaner also attacks STRmix's implementation of probabilistic genotyping. Even if probabilistic genotyping is an acceptable methodology, the argument goes, STRmix does not use the discipline correctly. (*See* PageID.767.) This argument is simply wrong.

First, STRmix was developed by experts in probabilistic genotyping, and tested by them extensively. STRmix has been studied in academic literature. This is all evidence of STRmix's reliability "external" to its application by the MSP. STRmix, https://strmix.esr.cri.nz (last visited Feb. 14, 2018) (collecting nineteen publications from 2013 to 2017 that "describ[e] the biological model, mathematics, performance and validation for STRmix[]"); *see* STRmix Validations, https://johnbuckleton.wordpress.com/strmix/strmix-validations/ (last visited Feb. 14, 2018) (collecting publicly available laboratory validations, including from the District of Columbia, New York, and San Diego crime labs); Jo-Anne Bright et al., *Internal validation of STRmix™ – A multi laboratory response to PCAST*, 34 Forensic Science International: Genetics 11–24 (2018) (attached as Ex. 3) ("We report a large compilation of the internal validations of the probabilistic genotyping software STRmix™. Thirty one laboratories contributed data resulting in 2825 mixtures comprising three to six donors and a wide range of multiplex, equipment, mixture proportions and templates."); Tamyra R. Moretti et al., *Internal validation of STRmix™ for the interpretation of single source and mixed DNA profiles*, 29 Forensic Science

International: Genetics 126–44 (2017) (attached as Ex. 4) (publishing the FBI's internal validation of STRmix).

Next, the MSP laboratory tested STRmix's reliability internally with known samples and found it valid before it began using the program to analyze new samples. Internal validation is an important check on the reliability of any new forensic tool to be sure that it can be implemented correctly using the tools already available in the particular laboratory. The report of MSP's internal validation was filed by Gissantaner as Attachment 14 to his brief. (PageID.1014–61.) The government is prepared to call at any evidentiary hearing the MSP personnel who oversaw the validation process for STRmix. The MSP validation relied in part on guidelines from a national working group. (PageID.1016, 1031, 1061.) *See generally* Scientific Working Group on DNA Analysis Methods ("SWGDAM"), *Guidelines for the Validation of Probabilistic Genotyping Systems* (June 15, 2015), https://www.swgdam.org/publications (last visited Feb. 14, 2018).

In addition to the published materials validating STRmix, MSP's internal validation is sufficient for purposes of *Daubert*. Validation is the means by which the laboratory tests a product to establish that it functions as expected. *See Williams v. Illinois*, 567 U.S. 50, 95 (2012) (Breyer, J., concurring) (observing that forensic DNA laboratories that seek to "access the FBI's Combined DNA Index System [CODIS] must adhere to standards governing, among other things . . . validation of testing methodologies"). By analogy, a driver who tests a car by driving it hundreds of miles can testify that the car does what the manufacturer says it does, even if the driver does not understand how the engine works. Here, prior to adopting STRmix, the MSP laboratory tested it on known mixtures of DNA to determine whether it could accurately do what the developers said it could do. That it passed internal validation, combined with the peer review

and external validation, is sufficient to meet the *Daubert* requirements. Two federal courts have admitted STRmix analyses based on internal validation studies. *See United States v. Russell*, No. 1:14-cr-02563-MCA, slip op. at 16–17 (D.N.M. Jan. 10, 2018) (attached as Ex. 5) (explaining that the court reviewed the "developmental and internal validation study papers," which complied with the SWGDAM guidelines (footnote omitted)); *United States v. Pettway*, No. 12-CR-103, 2016 WL 6134493, at *1 (W.D.N.Y. Oct. 21, 2016) (admitting STRmix evidence in part due to "internal validation studies" from which it was "concluded that STRmix provides consistently accurate information").

Because internal validation is sufficient to satisfy *Daubert*, Gissantaner is wrong that he has a constitutional right to "confront[]" the developer of the software. (PageID.767.) The Confrontation Clause does not apply to *Daubert* hearings. *See United States v. Karmue*, 841 F.3d 24, 26–27 (1st Cir. 2016) (observing that the confrontation right has never been extended beyond trial but leaving open the possibility it could apply to a *Daubert* hearing, though avoiding the question by finding any error harmless); *United States v. Aguilera-Meza*, 329 F. App'x 825, 833 (10th Cir. 2009) (finding no confrontation violation where the district court declined to hold a *Daubert* hearing); *see also United States v. Mitchell-Hunter*, 663 F.3d 45, 51–52 (1st Cir. 2011) (collecting cases) ("Mitchell does not point to a single case extending the right to confrontation beyond the context of trial, although there is extensive case law declining to apply the confrontation right to various pre- and post-trial proceedings."). Gissantaner's confrontation argument is limitless to the point of impossibility: as all forensic evidence is built on a vast number of individual scientific ideas, application of the confrontation right would allow a criminal defendant to turn each and every case in which forensic evidence is used into an endless parade of scientific experts. What Gissantaner further ignores, moreover, is that he also has the

ability to bring witnesses to any *Daubert* hearing, meaning he has no grounds to complain about the violation of the Confrontation Clause based on the government's chosen witnesses. *See United States v. Adams*, 189 F. App'x 120, 124 (3d Cir. 2006) ("[B]ecause appellants fail to show (or even argue) that they were somehow prevented from calling these 'actual' witnesses themselves, their reliance on *Crawford* is untenable. Appellants were able to cross-examine the government's expert witness at trial, and if they wanted to question those who actually performed the tests on the masks, they should have called those individuals as witnesses.").

Lastly, Gissantaner contends that STRmix is unreliable because it does not return identical results each time it is run. (PageID.752, 765.) This argument ignores a deeper truth about science: all measurement is subject to variability. Even when drugs are weighed by federal laboratories, their reports express the drug weight—mass—as subject to a confidence interval that documents uncertainty in the weight. That does not mean the scales are unreliable, but rather that while we can have a high degree of confidence in the approximate weight, we have a lower degree of confidence in the precise weight. The same principle applies to the complex statistical algorithm used by STRmix: there is little uncertainty in the conclusions derived from its use, even if there is some inevitable uncertainty in the precise results from a single calculation.[5]

3. The PCAST Report Is Misinterpreted and the Article by NIST Employees Is Wrong

Looking to appeal to governmental authority, Gissantaner attacks probabilistic genotyping and STRmix by misreading a report issued by the President's Council of Advisors on

[5] The source code for STRmix can be made available to defense counsel upon request. *See* ESR, Access to STRmix™ Software by Defence Legal teams, https://strmix.esr.cri.nz/assets/Uploads/Defence-Access-to-STRmix-April-2016.pdf (last visited Feb. 14, 2018).

Science and Technology ("2016 PCAST Report"). (PageID.760–63.) Curiously, Gissantaner submits that the 2016 PCAST Report supports his position, while acknowledging that the report observes that "[t]hese probabilistic genotyping software programs" are "a major improvement" in analyzing DNA mixtures. (PageID.762, 1174.) Presumably Gissantaner thinks the report is an asset because of the unremarkable proposition that new software programs "require careful scrutiny" to make sure they do what they say they do. (*Id.*) He also believes that because there is some evidence that Gissantaner was a minor contributor with a contribution to the mixture of less than 20%, and further because he claims the mixture may have had four contributors, the report's assertion that STRmix and a competitor, TrueAllele, "appear to be reliable for three-person mixtures in which the minor contributor constitutes at least 20 percent of the intact DNA" means STRmix could not have been used properly in this case. (PageID.762, 1175.)

As to the first point, the 2016 PCAST Report is unhelpful to Gissantaner because it largely endorses probabilistic genotyping and STRmix, as noted in the passages quoted above. The addendum to the 2016 PCAST Report observed that after meeting with the software's developer, Dr. John Buckleton, both Dr. Buckleton and PCAST agreed that empirical validation on different samples was an appropriate means to test the software. 2016 PCAST Report Addendum, at 9 (Jan. 6, 2017) (attached as Ex. 6).[6] As discussed above, that empirical validation has been done by forensic laboratories around the world as the use of STRmix

[6] The Addendum goes on to state: "When considering the admissibility of testimony about complex mixtures (or complex samples), judges should ascertain whether the published validation studies adequately address the nature of the sample being analyzed (e.g., DNA quantity and quality, number of contributors, and mixture proportion for the person of interest)." 2016 PCAST Report Addendum, at 9. Dr. Buckleton has thoughtfully pointed out in response that journals are unlikely to publish internal validation studies because they are not novel, but many such studies have been done. *See* https://johnbuckleton.wordpress.com/pcast/ (last visited Feb. 14, 2018) (collecting validation studies). Moreover, as cited above, several such studies have been published.

becomes more and more widespread. *See* https://johnbuckleton.wordpress.com/strmix/ (last visited Feb. 14, 2018) (observing that STRmix "is currently in use in 30 labs in the US, all 8 State and territory labs in Australasia, and 4 labs elsewhere" and attaching a list of active labs, including the FBI, the United States Army, and state labs in Michigan, California, Idaho, Texas, Oregon, Wyoming, Connecticut, Florida, and Indiana).

Nor is the 20-percent threshold and three-person-mixture limitation espoused by PCAST any cause for concern here. Gissantaner contends that he likely contributed only 7% to the DNA mixture according to STRmix, and since 7% is less than 20%, STRmix should not have been used to analyze his sample. (PageID.766–67.). Even assuming he is correct that he is the 7% contributor, PCAST does not control the detection limit of the MSP lab; MSP's internal validation studies do. *See Russell*, No. 1:14-cr-02563-MCA, slip op. at 17 (citing testimony from the expert "that the proportion of DNA from major and minor contributors found in this case was included within the ranges studied in the internal validation study"). And STRmix was validated by the MSP lab for minor contributors below 7%, and for mixtures involving four people. (PageID.1048–50 (demonstrating satisfactory validation for approximate 4% contributor in a four-person mixture). PCAST criticized certain forensic disciplines in lacking uniformity in approach, but tools like STRmix in fact provide uniformity.[7]

[7] Although the government prefers to focus on the scientific merits of the academic discussion in the 2016 PCAST Report, it bears mention that that report has received substantial criticism from forensic scientists. *See, e.g.*, I.W. Evett et al., *Finding the way forward for forensic science in the US—A commentary on the PCAST report*, 278 Forensic Science International 16–23 (2017) (attached as Ex. 7). Indeed, the Department of Justice has rejected the report since it was issued, even under President Obama, whose advisors wrote the report. *See, e.g.*, Gary Fields, Wall Street Journal, Sept. 20, 2016 (quoting Attorney General Loretta Lynch), https://www.wsj.com/articles/white-house-advisory-council-releases-report-critical-of-forensics-used-in-criminal-trials-1474394743 (attached as Ex. 8).

Gissantaner also attacks the use of likelihood ratios themselves, citing one paper written by two employees of NIST that criticizes their use. There are two reasons to reject this claim. First, likelihood ratios have long been used in courtrooms to describe the conclusions of DNA analysis. *See* Saks, *supra*, at 534–37; *see also, e.g.*, *United States v. Williams*, No. CR 05-920-RSWL, 2008 WL 5382264, at *17 (C.D. Cal. Dec. 23, 2008) ("The likelihood ratio approach or a random match probability approach are often used in probable cause cases, in which DNA from a crime scene is compared directly to the DNA profile of a *known* suspect."). Second, respected scientists disagree with the paper cited by the defendant. *See, e.g.*, Geoffrey Stewart Morrison, *A Response to: "NIST experts urge caution in use of courtroom evidence presentation method,"* http://forensic-evaluation.net/NIST_press_release_2017_10/ (last visited Feb. 14, 2018) (explaining the shortcomings of the Lund and Iyer argument). A formal rebuttal of the paper is beyond the scope of this response, but in short, that paper (1) ignores that juries are presumed able to sort through evidence, aided by adversarial examination of the bases of expert opinions, (2) fails to recognize the uncertainty described by the likelihood ratio itself, and (3) is not tailored to analyzing DNA, which among forensic disciplines is comparatively robust insofar as the statistical distribution of alleles in populations have been thoroughly studied and the method for calculating the likelihood ratio carefully honed. The government expects that a formal response to their argument, which itself was published just four months ago, will be published in the coming months.

Gissantaner makes the related argument, based on Rules 401 and 403, that likelihood ratios "would only marginally help the trier of fact to understand the evidence." (PageID.769.) The likelihood ratio is a powerful tool for conveying the probative value of DNA evidence to the jury, and because likelihood ratios are delivered with explanations of their scientific meaning by

qualified experts, there is little risk of confusion. If defense counsel believes that the expert has not properly qualified the explanation, the meaning of the likelihood ratio can be explored on cross examination. *See, e.g.*, *United States v. Stafford*, 721 F.3d 380, 393–95 (6th Cir. 2013) (affirming admission of expert testimony on gun-shot residue because the issue was one of weight and not admissibility and could be challenged through cross examination); *Bonds*, 12 F.3d at 562–63 (admitting DNA evidence and explaining that criticisms of a qualified expert's conclusions or allegations that a lab made a mistake are issues of weight to be explored on cross examination). Gissantaner's claim that cross examination and clear presentation on this issue are "impossible," (PageID.770), is an affront to the jury's essential role in our criminal justice system. *See, e.g.*, *United States v. Harper*, 466 F.3d 634, 647 (8th Cir. 2006) ("[W]e presume juries to be composed of prudent, intelligent individuals . . . ."); *United States v. Williams*, 858 F.2d 1218, 1225 (7th Cir. 1988) ("Juries . . . are presumed capable of sorting through the evidence . . . .").

4. The MSP Used STRmix Correctly

The final set of Gissantaner's arguments directed toward STRmix focus on how the software was used by the MSP lab in his case. He challenges the peak calls made by the analyst in determining that there were only three contributors to the mix, and in disregarding one locus for purposes of calculating the likelihood ratio. Both decisions were sound exercises of the analyst's scientific discretion. Moreover, the analyst's report notes the lab's willingness to conduct calculations using different decisions upon request; Gissantaner has yet to request such analysis by the lab. (PageID.920 ("The propositions were formed from the information available to the undersigned at the time of analysis. If this information changes or other propositions should be considered, the analyst is able to undertake them if instructed with sufficient time.").)

As an initial matter, Gissantaner has attached the wrong set of electropherograms to his motion, although he refers in his brief to comments made by the analyst on the pertinent set. (*Compare* Ex. 2 *with* PageID.1002–13.) The MSP's workflow in this case involved first a forensic scientist not trained in STRmix. That scientist took the first look at the electropherogram of the sample from the gun, determined it was a mixture, and issued the second lab report, simply stating that further analysis was required (because she was not trained to analyze it). The next scientist then stepped in to use STRmix. In order to analyze the electropherograms using STRmix, she had to turn the "stutter filter" off, a required step in MSP's protocol for using STRmix, as documented in Gissantaner's Attachment 12, the MSP's policy manual. (PageID.989 ("The analysis method incorporates the same thresholds and methods as used previously, except the stutter thresholds are removed for the STRMix Casework method.").) The stutter filter is the component of the Applied Biosystems GeneMapper software (used by the MSP to create electropherograms) that calls alleles after capillary electrophoresis is complete (in other words, as discussed above, it differentiates signal from noise). This second set of electropherograms, attached as Exhibit 2 to this brief, documents the STRmix-trained analyst's work in this case.

As Gissantaner observes, the analyst noted on the electropherogram, as she is required to, that the locus D8S1179 was ignored because of the "exhibited oversaturation." According to MSP policy, oversaturated loci can be ignored as inconclusive. (PageID.967.) Gissantaner wrongly claims the sample should have been re-run, (PageID.766), as that part of the protocol does not apply to samples being analyzed with STRmix. Specifically, he cites to the part of the MSP policy that dictates how non-STRmix samples are to be developed. (*See* PageID.967 (suggesting oversaturated samples be run again as part of the general guidelines for

interpretation).) But the policy specifically authorizes the analysis to be transitioned to a qualified STRmix analyst where mixed-source interpretation is required. (PageID.970.) And during that STRmix analysis, the scientist is permitted to ignore peaks with identifiable artifacts (chemical snippets that register on the electropherogram but are not indicative of an allele), such as in oversaturation. (*See* PageID.995 ("[I]f a peak on the electropherogram is interpreted as arising from an artifact after considering the number of potential donors and the overall DNA profile, it may be removed from STRMix™ consideration during the IDx interpretation.").) Part of the rationale behind the MSP policy related to oversaturation is the detection limit of the instrumentation involved in capillary electrophoresis.

Given the designation of D8S1179 as inconclusive, the most reasonable interpretation of the electropherogram, and that provided by STRmix itself, is that the sample from the gun was that of a three-person mixture. Even so, the MSP is prepared to re-run the likelihood ratio calculation using a four-person (or other reasonable) assumption at Gissantaner's request, an offer that was made in writing on the lab report itself. He has not so requested, the government can only assume, because the resulting likelihood ratio will not be favorable to his case.

B. Probabilistic Genotyping, As Implemented by STRmix, Is Admissible Under the *Daubert* Factors

In sum, probabilistic genotyping in general, and STRmix in particular, are methods that are admissible under *Daubert*'s interpretation of Rules 701, 702, and 703. There is no legitimate dispute that determining the relative likelihood that Gissantaner's DNA was on the gun would assist the jury in determining whether he possessed it, as charged in the indictment. Likewise, it is clear that STRmix has been validated, both internally by laboratories and in peer-reviewed publications.

The *Daubert* factors are therefore readily satisfied. As cited above, several peer-reviewed publications discuss STRmix favorably. Forensic laboratories across the world have validated and adopted STRmix, and more are doing so each year, indicating STRmix passes the "testing" of which *Daubert* spoke. Even with the criticisms of the PCAST report, the authors of that report are cautiously optimistic about probabilistic genotyping and STRmix, which, combined with the peer-reviewed literature and wide adoption, is indicative of general acceptance. There is no readily describable "error rate" as such, but the likelihood ratio incorporates the animating principle behind that *Daubert* factor: it provides a mathematical description of the likelihood that the defendant's profile was found in the mixture by chance. And laboratories using STRmix, including the MSP, have lengthy, detailed standards governing the use of the software. (*E.g.*, PageID.978–99.)

Perhaps most importantly, STRmix has been internally validated by the MSP lab that used it, which should be sufficient on its own because internal validation hits two of the *Daubert* factors—testing and determination of error rate—in addition to being the touchstone of the "good grounds" about which the *Daubert* Court wrote.

Therefore, it is unsurprising that the state and federal courts that have reviewed STRmix have admitted it, with the only known exclusion based not on the program itself, but the absence of internal validation by the laboratory prior to its use. *Russell*, No. 1:14-cr-02563-MCA, slip op. at 18 ("STRMix has been tested for the purpose relevant here, . . . such tests have been peer-reviewed and published in scientific journals, and . . . its analyses are based on calculations recognized as reliable in the field."); *Pettway*, 2016 WL 6134493, at *2 ("Defendants may press their contentions concerning the longevity and reliability of STRmix on cross-examination and through their own expert witnesses. But nothing in their motion demonstrates that a Daubert

hearing or preclusion of evidence is necessary or warranted."); *Nelson v. State*, No. 02-16-00184-CR, 2017 WL 3526340 (Tex. Ct. App. Aug. 17, 2017) (affirming admission of STRmix evidence); *People v. Bullard-Daniel*, 54 Misc. 3d 177 (N.Y. Niagra Cnty. Ct. 2016) (admitting STRmix evidence); *see State v. Wakefield*, 9 N.Y.S. 3d 540 (N.Y. Sup. Ct. 2015) (admitting probabilistic genotyping evidence from TrueAllele, a competitor to STRmix); https://johnbuckleton.wordpress.com/strmix/ (last visited Feb. 14, 2018) (collecting slip opinions admitting STRmix); https://johnbuckleton.files.wordpress.com/2017/12/people-v-hillary-ii.pdf (last visited Feb, 14, 2018) (summarizing the scientific issues involved in *People v. Hillary*, a New York state case, in which the evidence was excluded).

C. The Defendant's Allegations Regarding the Handling of Evidence Are Premature and Do Not Bear on the *Daubert* Issue

The Court need not consider the issues raised by Gissantaner that relate to the BCPD's handling of evidence. Legally, all of the arguments are for the jury and do not implicate the *Daubert* gatekeeping function. Factually, the arguments require the Court to assume what the involved officers would testify to, something they will not do until the case is tried. Fundamentally, the arguments themselves are logically flawed and, whatever they insinuate about contamination, cannot explain why Gissantaner's DNA was on the gun.

1. Evidence Handling Is a Question of Weight and Not Admissibility

Putting aside, for a moment, Gissantaner's fraught speculation, all of his allegations relating to the chain of custody or the manner in which evidence was handled are for the jury. They go to weight, not admissibility, and should be the subject of defense counsel's cross examination of the officers involved. *See, e.g.*, *United States v. Knowles*, 623 F.3d 381, 386 (6th Cir. 2010); *United States v. Allen*, 619 F.3d 518, 525 (6th Cir. 2010) (citing *United States v.*

Allen, 106 F.3d 695, 700 (6th Cir. 1997)) ("Chain of custody issues are jury questions and the possibility of a break in the chain of custody of evidence goes to the weight of the evidence, not its admissibility."); *United States v. Combs*, 369 F.3d 925, 938 (6th Cir. 2004); *United States v. Levy*, 904 F.2d 1026, 1030 (6th Cir. 1990) ("[C]hallenges to the chain of custody go to the weight of evidence, not its admissibility.").

The Court does, through its gatekeeping function, have an obligation to keep from the jury evidence that has clearly been tampered with. "Physical evidence is admissible when the possibilities of misidentification or alteration are 'eliminated, not absolutely, but as a matter of reasonable probability.' *United States v. McFadden*, 458 F.2d 440, 441 (6th Cir.1972) (citation omitted). Merely raising the possibility of tampering is insufficient to render evidence inadmissible." *Allen*, 619 F.3d at 525. But Gissantaner has not met his burden of showing a reasonable probability of tampering, and his brief stops short of accusing the officers of tampering. Gissantaner does not cite a single case in which the types of chain-of-custody arguments he is making led to the exclusion of the evidence. Moreover, as discussed below, the allegations he makes do not undermine the relevant evidentiary conclusion—that Gissantaner's DNA is on the gun because he touched it.

2. The Defendant Assumes Too Much

Nor could Gissantaner meet his burden. The Federal Rules of Criminal Procedure do not provide for depositions absent "exceptional circumstances" not present here. Fed. R. Crim. P. 15(a)(1). Gissantaner will have to wait for trial to examine the officers on their recollection of the events of September 25, 2015. The reports and recordings disclosed to the defense summarize their expected testimony. In his brief, instead of hewing close to the facts recited in

those reports, Gissantaner speculates about what else the officers will testify to and insinuates misconduct where there is none.

Gissantaner's first critique of the BCPD is that one or two of the officers touched the gun before the evidence technician arrived to collect it. (PageID.773.) At the outset, police officers live in the real world, and while searching for evidence may occasionally come into contact with the contraband for which they were searching. In this case, the gun was found in a chest full of other belongings, and the officers' testimony at trial will establish if and why one or more of them touched the gun. Whatever their explanations, the DNA profile found on the gun is inconsistent with contamination by officers sloughing off and stirring up DNA. Gissantaner's claim to the contrary—that his DNA wound up on the gun because officers touched other items in the home, and then the gun—relies on the ideas of touch and transfer DNA.

As Gissantaner rightly points out, humans slough off skin cells every day, all day. Humans spit, sneeze, shed hair, and clip their nails. How many skin cells slough off, how much variation in DNA shedding exists among humans, and what the likelihood of transfer is, are all topics still subject to study. *See generally* C. Davies et al., *Assessing primary, secondary and tertiary DNA transfer using the Promega ESI-17 Fast PCR chemistry*, Forensic Science International: Genetics Supplement Series e55–57 (2015) (attached as Ex. 9) ("Unambiguous tertiary transfer was difficult to detect but cannot be ruled out."); Ane Elida Fonneløp et al., *Secondary and subsequent DNA transfer during criminal investigation*, 17 Forensic Science International: Genetics 155–62 (2015) (attached as Ex. 10) ("T]he risk of innocent DNA transfer at the crime-scene is currently not properly understood."). When two people shake hands, then, it is *possible* that Person A's DNA could be detected on a swab of Person B's palm. That is an example of primary transfer. When Person A touches Object B, which is then handled by Person

C, the detection of Person A's DNA on Person C is an example of secondary transfer. Gissantaner's theory is even more remote than that: he asserts there was tertiary transfer. He hypothesizes that because his DNA (Person A) was on objects in the home (Objects B), that officers searching the home (Persons C) not only picked up some of that DNA but then deposited it on the gun (Object D), before his DNA was found on the gun.

The problems with this hypothesis are multifold. First, while all agree that DNA can be and is transferred between people and objects, the frequency with which that occurs is unclear, though as observed by the Davies article, tertiary transfer is difficult to detect even under experimental conditions. Second, and relatedly, Gissantaner has offered no clue about what evidence will be introduced about DNA transfer at a *Daubert* hearing or at trial. Gissantaner's counsel's statements in the brief are not evidence, and while the brief alludes to an expert, it does not provide the summary required by Rule 16 of what that expert will say. On December 22, 2017, Gissantaner attempted to provide the Rule 16 notice. While that letter identified the topic of touch DNA, it did not summarize what the expert would say about it, or the bases for those opinions; moreover, that letter hedged on whether the defense expert would be called at all. (*Compare* Ex. 11 *with* Fed. R. Crim. P. 16(b)(1)(C) ("This summary must describe the witness's opinions, the bases and reasons for those opinions, and the witness's qualifications.").) The government objected to the lack of proper notice on December 28, 2017, but Gissantaner has not provided an amended notice. (*See* Ex. 12.) Short of Gissantaner properly noticing expected expert testimony in touch or transfer DNA, the government does not intend to call any witness to testify about it.

Third, the DNA profile on the gun is not consistent with Gissantaner's theory about DNA transfer. Gissantaner states that seven people lived in the home—two male adults, two female

adults, and three children of unspecified sex. (PageID.741.) At least five officers entered the home to search it, with at least three in the room with the gun. Therefore, under the theory where humans are sloughing off skin cells that are readily transferred to evidence, and counting only the officers who entered the room where the gun was found, at least *ten* individuals' DNA, including that from at least *five* males (Gissantaner, Patton, and the three searching officers, who were male), should have been found on the gun. Moreover, the facts as alleged by Gissantaner under his theory of the case, that the gun was Patton's—specifically that the gun was located in Patton's part of the house, and that male officers touched the gun prematurely—suggest that Patton's family's DNA and that of the officers should have been found on the gun. In fact, under his theory, it is much more likely that Patton's or the officers' DNA would have been found on the gun than Gissantaner's given that primary and secondary transfer are more probable than tertiary transfer.

That theory is inconsistent with the DNA analysis. Instead, as Gissantaner's brief indicates, the evidence suggests that the gun had on it the DNA of three people—Gissantaner, the female major contributor, and an additional minor contributor of undetermined sex. If the officers were shedding DNA and generally sloppy in handling the evidence, and if the gun belonged to Patton, why weren't multiple other male DNA profiles found on the weapon? Under the tertiary transfer theory, if the officers both picked up Gissantaner's DNA from other objects in the house and deposited it onto the gun, why didn't they also pick up DNA from the other residents of the house (in other words, why weren't there at least ten DNA profiles on the gun)?

Gissantaner does not have a theory that answers these questions, which is why he asks the Court to focus on the fact that an officer touched the gun while searching through a chest for evidence, and to overlook the insignificance of that touching. The hypothesis most consistent

with the evidence is that the DNA found on the gun was from the people who had handled it for a prolonged period, including Gissantaner.

Gissantaner's next criticism of the BCPD addresses the policies and procedures for transporting DNA evidence. Although the government produced the BCPD's documentation of the chain of custody, that, apparently, was not good enough for Gissantaner, who complains that "the discovery materials do not identify the methods by which the evidence was stored or transported" and accordingly "the government cannot demonstrate that the firearm was [not] ever in contact with any other individual or object." (PageID.774.) Gissantaner extrapolates that there was "[a] break in the chain of custody" because two entries on the custody log are separated by five days. (*Id.*) Gissantaner makes a throw-away argument about how two sticks used to swab Gissantaner's cheeks were not in the bag with the cotton swab residual after the samples were process by the lab. (PageID.776.)

This series of arguments is reckless speculation. The government will call the evidence technician at trial, who will testify about DNA collection in this case and in general.[8] BCPD is not required to have a written policy for every minute task conducted by officers, nor is it required to document the location of evidence on a continuous basis. It is sufficient to have well-trained officers who know how to properly collect and transport evidence, and to log the transfer of evidence from one secure location to another.

Gissantaner is wrong yet again when he looks to MSP's policies and procedures to throw shade at the BCPD. (PageID.775–76.) He makes two mistakes, one large and one small. First,

[8] Gissantaner accuses the evidence technician of misstating the time at which he collected Gissantaner's DNA in support of his argument that the BCPD is sloppy. (PageID.747 & n.3.) Gissantaner misreads the report: the report attached to Gissantaner's brief clearly states that the swabs were collected at 11:00 p.m., not 7:00 p.m. as Gissantaner claims. (PageID.791 ("Two . . . swabs collected via consent from DANIEL GISSANTANER . . . at 23:00 hours on 9/25/2015."); PageID.797 (chain of custody noting "Item Collected" at "09/25/2015 23:00").)

his broad criticism that BCPD does not have written guidelines for handling DNA evidence that are as detailed as the MSP's is misguided; a state laboratory is of course likely to be more focused on properly handling the large volume of samples it processes than is a local police department on how to collect evidence from a particular scene. There is a range of acceptable detail for written policies governing evidence collection, and every law enforcement agency is not required to have written manuals as detailed as the FBI's.

Second, Gissantaner says that the BCPD violated MSP policy by collecting his DNA; he was, after all, a convicted felon whose DNA profile was on file. (PageID.775.) The insinuation is that the supposedly improper collection of DNA from Gissantaner allowed for accidental cross contamination (at best), or intentional planting of evidence (at worst). But yet again, Gissantaner does not understand the manual he is citing, and he is reading an excerpt inapplicable to the facts of his case. The MSP laboratory has two separate DNA units—a CODIS unit (which administers the DNA profiling system, the rules for which are found in Gissantaner's Attachment 25), and a casework unit. The policy quoted in Gissantaner's brief applies to the CODIS unit. If a convicted felon is already in the CODIS database, when he is re-arrested his DNA is not recollected, because to do so would be a massive waste of resources: MSP would be entering felons into the CODIS database who were already there. By contrast, the casework unit *requires* DNA from a known suspect to be recollected and submitted for comparison. *See generally* FBI Laboratory, *National DNA Index System (NDS) Operational Procedures Manual, Version 6*, at 54 (effective July 17, 2017) (attached as Ex. 13) (describing how, even after a CODIS hit, a casework laboratory requires a "newly obtained known biological sample" for DNA analysis). A detailed discussion of the reasons for that policy is beyond the scope of this brief, but in short it has the benefit of efficiency (for example, DNA technologies change, and concurrent submission

of samples allows the samples to be run on the same platform), and statistical issues in interpretation (multiple hypothesis testing required by searching the CODIS database weakens the strength of the evidence). Here, too, Gissantaner is mistaken about the propriety of the analysis conducted in his case.

Finally, Gissantaner suggests sloppiness because the sticks from the buccal swabs collected from him were "not present" when counsel viewed the evidence. (PageID.749, 776.) But as Gissantaner acknowledges, the chain of custody shows the sticks are in BCPD's evidence. It appears that they were simply inadvertently not pulled for the evidence viewing, and they are available for Gissantaner's counsel to inspect.

IV. CONCLUSION

Gissantaner's litany of attacks on the DNA evidence in this case lack merit. Despite a 640-page submission, Gissantaner has no answer to the only reasonable explanation for the likelihood ratio of 49 million: that his DNA was on the gun. Gissantaner's criticisms are best explored through cross examination at trial. But these are not arguments that should keep this powerful and expertly developed forensic evidence from the jury.

Respectfully submitted,

ANDREW BYERLY BIRGE
United States Attorney

Dated: February 15, 2018

/s/ Justin M. Presant
JUSTIN M. PRESANT
Assistant United States Attorney
P.O. Box 208
Grand Rapids, Michigan 49501-0208
(616) 456-2404

Re: Proceedings of the 6th International Conference on Evidence Law and Forensic Science

From: "Hunt, Ted (ODAG)" <(b) (6)
To: "Antell, Kira M. (OLP)" <(b) (6)
Date Mon, 14 Aug 2017 21 34 57 0400

Ok I will be free in the p m

On Aug 14, 2017, at 6:49 PM, Antell, Kira M. (OLP) <(b) (6) wrote:

> Hi Bet y,
>
> See below (b) (5)
> thorough ome outcome we will need to include ODAG (CC'd here)
>
> Thanks,
> Kira
>
> Begin forwarded me age
>
> > **From:** "Taylor, Robert" (b) (6)
> > **Date:** August 14, 2017
> > **To** "Antell, Kira M (OLP)" (b) (6)
> > **Subject: RE: Proceedings of the 6th International Conference on Evidence Law and Forensic Science**
>
> |

The standout thing for me today was Dan Capra, the reporter for the federal rules Evidence subcommittee, talking about proposals to adopt a new federal rule applying to the presentation of forensic testimony that essentially repeated the PCAST recommendation He al o mentioned ome ort of ympo ium in October where thi would be di cu ed I couldn't stay until 4 p.m. and the "workshop" session or he and I most likely would have had a prolonged conversation about our difference of opinion.

Do you know anything about this? I have several thoughts about the unproven, and perhaps unjustifiable, assumptions that were in his proposal – the assumption, for example, that cross-examination is useless for forensic testimony, that judge imply defer to rather than evaluate foren ic opinion , that ub tantive, outcome determinative challenge to forensic testimony occur with great frequency, that the defense is universally precluded from calling its own experts due to resource shortages, and that the solution to this last problem is to obstruct the presentation of evidence rather than to increase funding for indigent defense.

Fwd: Proceedings of the 6th International Conference on Evidence Law and Forensic Science

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Hunt, Ted (ODAG)" <(b) (6)
Date Mon, 14 Aug 2017 18 44 29 0400

Let' di cu by phone tomorrow or Wedne day (b) (5)

Begin forwarded message:

From: "Taylor, Robert" <(b) (6) >
Date: August 14, 2017 at 6:40:09 PM EDT
To: "Antell, Kira M. (OLP)" <(b) (6)
Subject RE Proceeding of the 6th International Conference on Evidence Law and Foren ic Science

Duplicative Material

From: Antell, Kira M. (OLP) [mailto (b) (6)
Sent: Friday, August 11. 2017 2:44 P
To Taylor, Robert (b) (6)
Subject: RE: Proceedings of the 6th International Conference on Evidence Law and Forensic Science

It is so kind of you to offer but I just can't make it on Monday. I would be grateful to hear your thoughts afterward – or anything of particular interest as it happens. Maybe we could plan to speak (b) (6)

From: Taylor, Robert [mailto (b) (6)]
Sent Friday, Augu t 11, 2017 1 27 PM
To: Antell, Kira M. (OLP) <(b) (6)
Subject: RE: Proceedings of the 6th International Conference on Evidence Law and Forensic Science

In fact, I somehow ended up on the organizing committee. I will be there on Monday. My boss, AG Brian Frosh, is giving the opening remarks.

(b) (6) [redacted]

Want me to put you on the guest list?

From: Antell, Kira M. (OLP) [mailto:(b) (6) [redacted]
Sent: Friday, August 11, 2017 1:24 P
To Taylor, Robert (b) (6) [redacted]
Cc: Amie Ely <(b) (6) [redacted]
Subject: Proceedings of the 6th International Conference on Evidence Law and Forensic Science

Hi Rob,

Hope you're well. I wonder if you're aware of this conference in Baltimore and if any of your staff are attending.
http //www icelf 2017 theiae com/node/1046

I'm very interested but unable to go in person on Monday. (b) (5) [redacted]

Let me know. I'd love to discuss your thoughts.

Thanks,

Kira

Kira Antell

Senior Counsel

Office of Legal Policy

U.S. Department of Justice

950 Pennsylvania Avenue, NW

Washington, DC 20530

(b) (6) [redacted]

(b) (6) [redacted]

RE: Proceedings of the 6th International Conference on Evidence Law and Forensic Science

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Shapiro, Elizabeth (CIV)" (b) (6)
Cc "Hunt, Ted (ODAG)" (b) (6) "Gold mith, Andrew (ODAG)" (b) (6)
Date: Tue, 15 Aug 2017 16:14:48 -0400

Hi Betsy,

I'm sorry that we haven't had a chance to connect yet today. (b) (5) (b) (6) but I will be available by phone and email tomorrow to talk about this and share my thoughts.

Thank ,
Kira

From: Goldsmith, Andrew (ODAG)
Sent Monday, August 14, 2017 6 55 PM
To: Antell, Kira M. (OLP) <(b) (6)
Cc Shapiro, Elizabeth (CIV) (b) (6) Hunt, Ted (ODAG) (b) (6)
Subject: Re: Proceedings of the 6th International Conference on Evidence Law and Forensic Science

I concur with Kira's assessment.

Sent from my iPhone - please excuse any typos.

On Aug 14, 2017, at 6 49 PM, Antell, Kira M (OLP) (b) (6) wrote

Analysis of Pubic Comments on Spring 2017 Forensic Science call for input

From: "Cavanagh, Richard R Dr. (Fed)" (b) (6)
To: "Antell, Kira M. (OLP)" <(b) (6) "Hunt, Ted (ODAG)" <(b) (6)
Date Fri, 25 Aug 2017 10 11 07 0400
Attachments: RFI Memo.docx (152.91 kB); DOJ RFI Forensic Science.xlsx (163.4 kB)

Ted and Kira,

Yesterday I indicated that NIST had done an analysis of the DOJ RFI that closed in June.

I have included an electronic copy of the summary memo, and spread sheet that captures the details of our analysis.

By the time your September visit, the NIST RFI will be on the street (August 30 is the date of release). Perhaps we could talk about how to connect the two sets of responses

Rich

Richard Cavanagh
Director, Special Programs Office
National Institute of Standards and Technology
Gaithersburg, Maryland
(b) (6)

TO: Richard Cavanagh
FROM: Eleanor Celeste
RE: DOJ RFI on forensic science

On April 13, 2017, the Department of Justice (DOJ) published a Request for Information (RFI) in the Federal Register "seeking comment on how the Department should move forward to evaluate and improve the underlying science of forensic evidence; improve the operational management systems of forensic science service providers; and improve the understanding of forensic science by legal practitioners."[1] DOJ received 253 responses to this RFI, which closed on June 9, 2017.

The attached table organizes all 253 comments and allows for specific sorting by certain metrics of interest. At the end of each comment entry there is a link to the web address to view that comment and a hyperlink to attachments that were included as part of any comment. The table also includes a notes section that calls out key buzz words or topics that may have appeared across several comments.[2] This memo includes a short summary of the information available in the table.

Summary of Information Available in RFI Table

- In 253 comments, 170 commenters voiced support for keeping the National Commission on Forensic Science (NCFS), 6 commenters did not want to maintain the NCFS, and 77 commenters did not address this point. Of the 176 commenters who addressed this point, approximately 97% voiced support for keeping the commission, with 67% of total commenters voicing support for the NCFS.
- I identified approximately 73 of 253 comments or 29% of comments as part of a "commenting campaign," where commenters copied either directly or nearly identical language from a distributed comment.
- Approximately 38 comments were submitted by organizations or associations, 2 comments were submitted by members of Congress, approximately 26 comments were submitted by individuals who self-identified in some way as part of the forensic science or legal community, and 187 were submitted by individuals who didn't claim any specific affiliation.
- At least 45 comments mentioned NIST, either directly or as the administrator of the OSAC.
- Two topics were consistently mentioned in non-campaign comments, particularly in practitioner and association or organization comments – funding and workforce or training issues. At least 67 comments, or approximately one quarter of the comments, addressed funding and resource needs for the forensic science community, while 26 comments specifically identified workforce needs and 41 comments voiced support for additional training resources.

There were two high level themes that emerged in the more substantive comments submitted by individuals or organizations within the forensic science community.

1. **State and local inclusion with strong federal leadership**. NAME stated in their comment that 95% of all forensic science work takes place at the state and local level. Many commenters expressed the need to include state and local practitioners in decision-making, a few commenters commended the OSACs for their process so far, while a few others

[1] https://www.regulations.gov/document?D=DOJ-LA-2017-0006-0001
[2] Please excuse spelling errors in the notes section of the table, as these were captured quickly while reviewing the comments and setting don't' allow for spellcheck throughout the table.

criticized or called for restructuring in the OSACs. Many of these commenters expressed a desire to have leadership at the federal level where there are more resources and authority to lend this topic. Some commenters went as far as to recommend that the federal government take an oversight or regulatory role in setting standards or enforcing accreditation mandates. For example:

a. "NIST assume the role of acting as an independent scientific evaluator of the foundational validity forensic science test methods and practices and that funding be made available through the executive branch or by congressional action to fully implement the actions by NIST necessary to that role." – Matt Redle, American Bar Association
b. ANSI-ASQ National Accreditation Board recommended a "private- public sector partnership for third-party conformity assessment activities" and that the "base requirement should be that accreditation bodies must be signatories of the ILAC and/or IAF multilateral recognition arrangements (MRAs)."

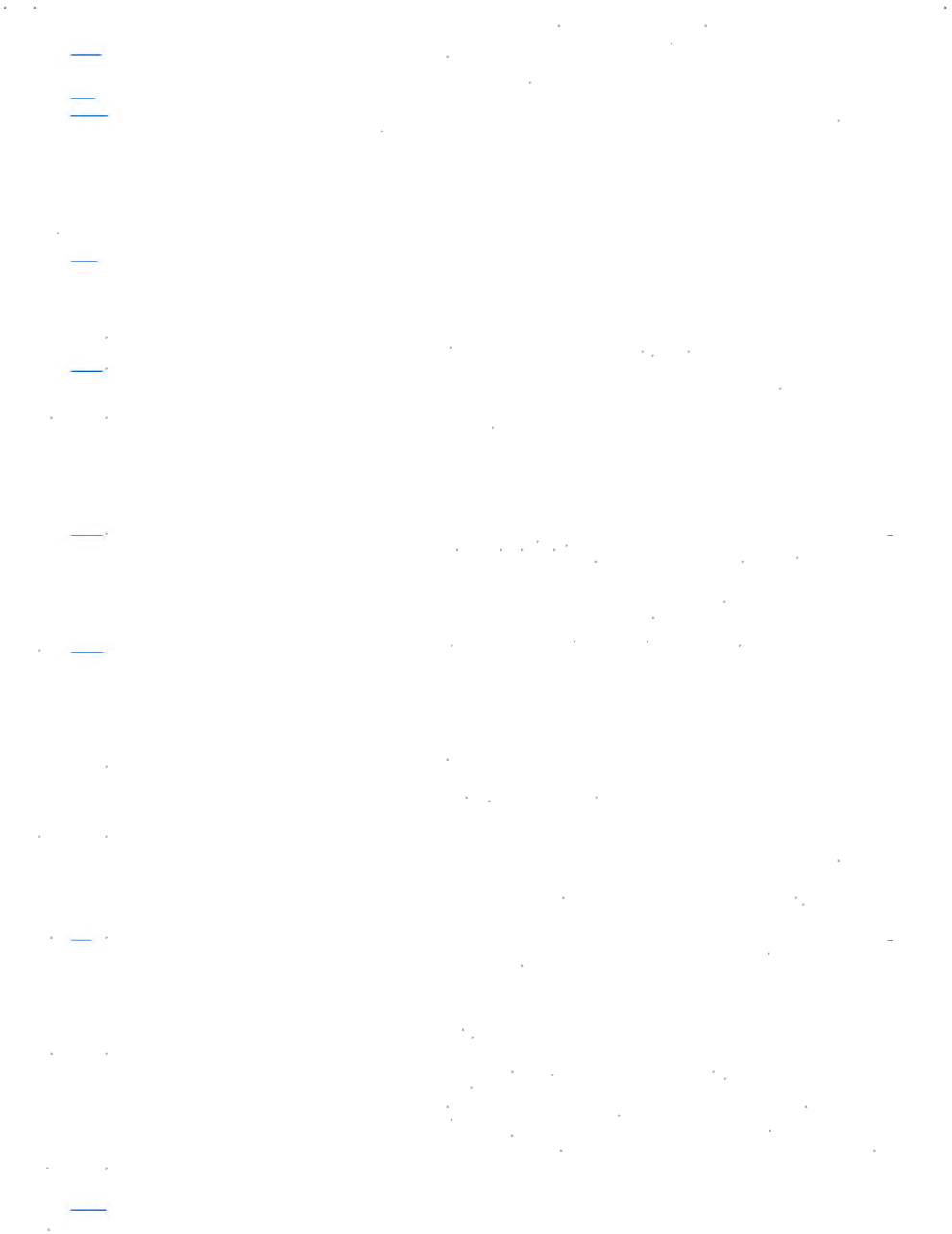
2. **Accreditation, standards, and best practices**. According to NACDL, "roughly 88% of 409 publicly funded crime laboratories in the nation are accredited by a professional forensic science organization. Roughly 72% of public crime labs have at least one externally certified analyst, and 98% of labs conduct some kind of proficiency testing." At least 29 comments directly reference the need for accreditation of forensic science facilities, while 118 comments reference the need to more or stronger or improved standards and/or best practices.

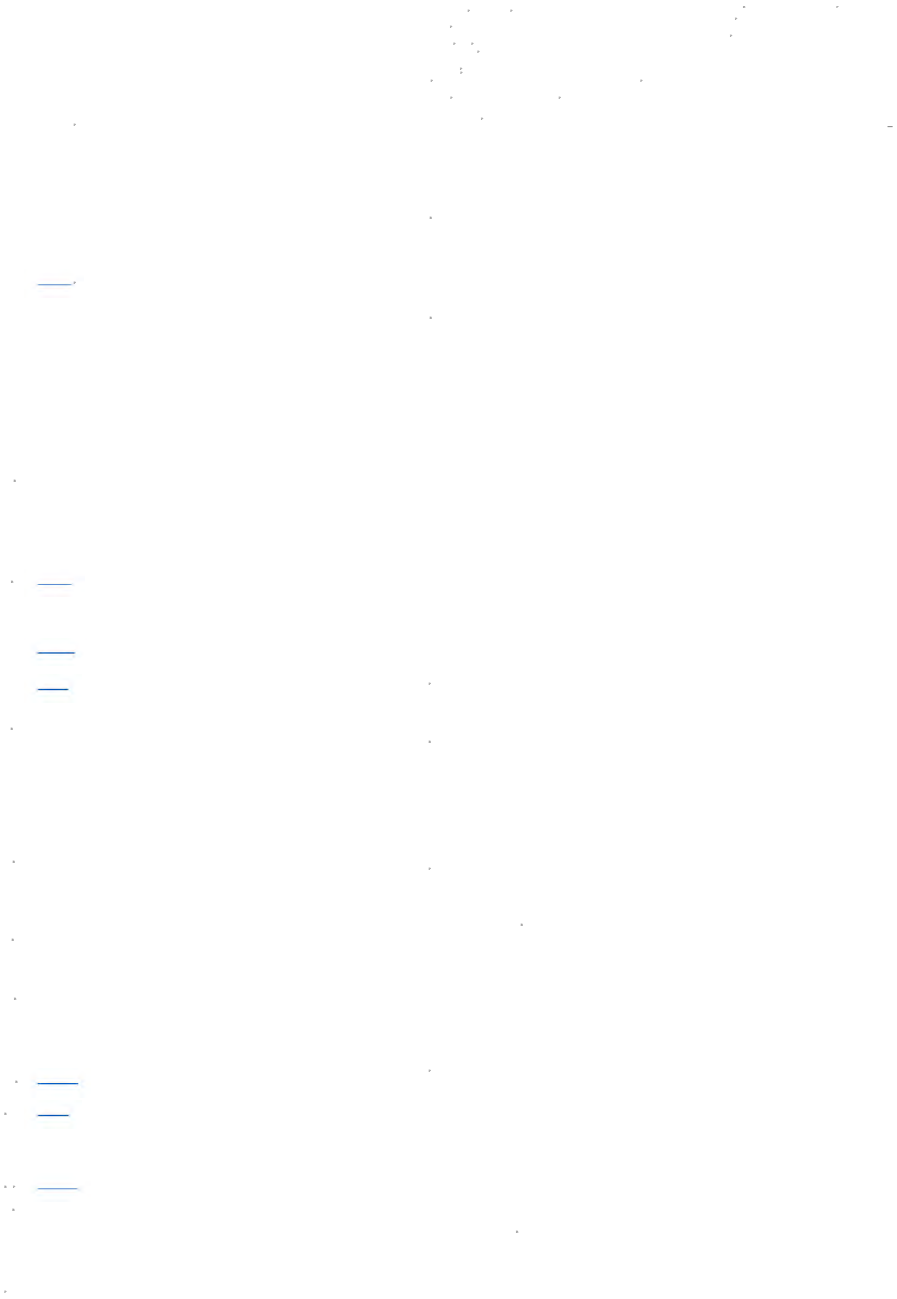
Office of Forensic Science

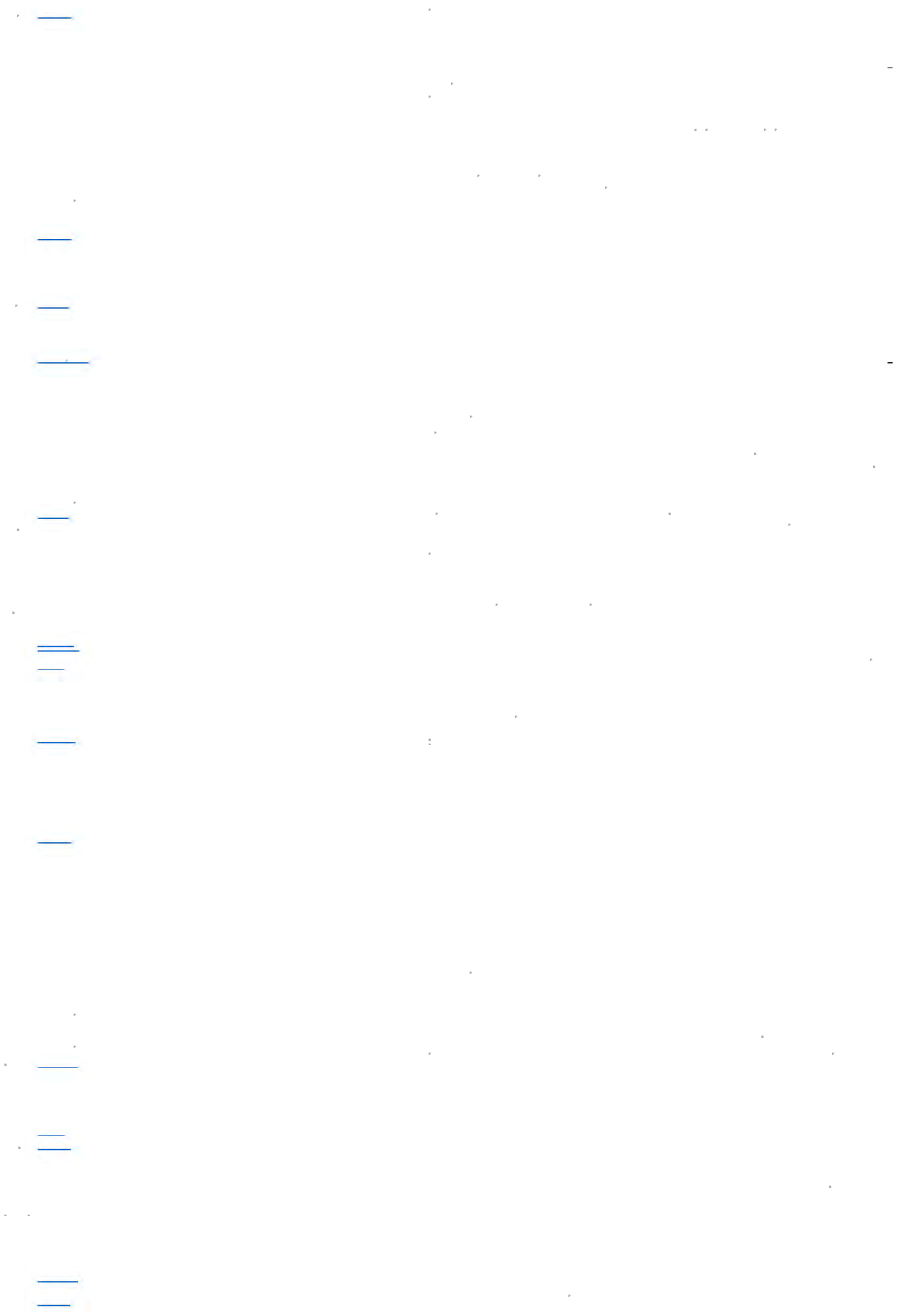
By my assessment, only 14 comments made specific mention of including or not including an office of forensic science within DOJ, with those comments split evenly between supporting the establishment of an office within DOJ and not supporting a DOJ led office. One commenter suggested that Congress create an independent agency to oversee forensic science across government.

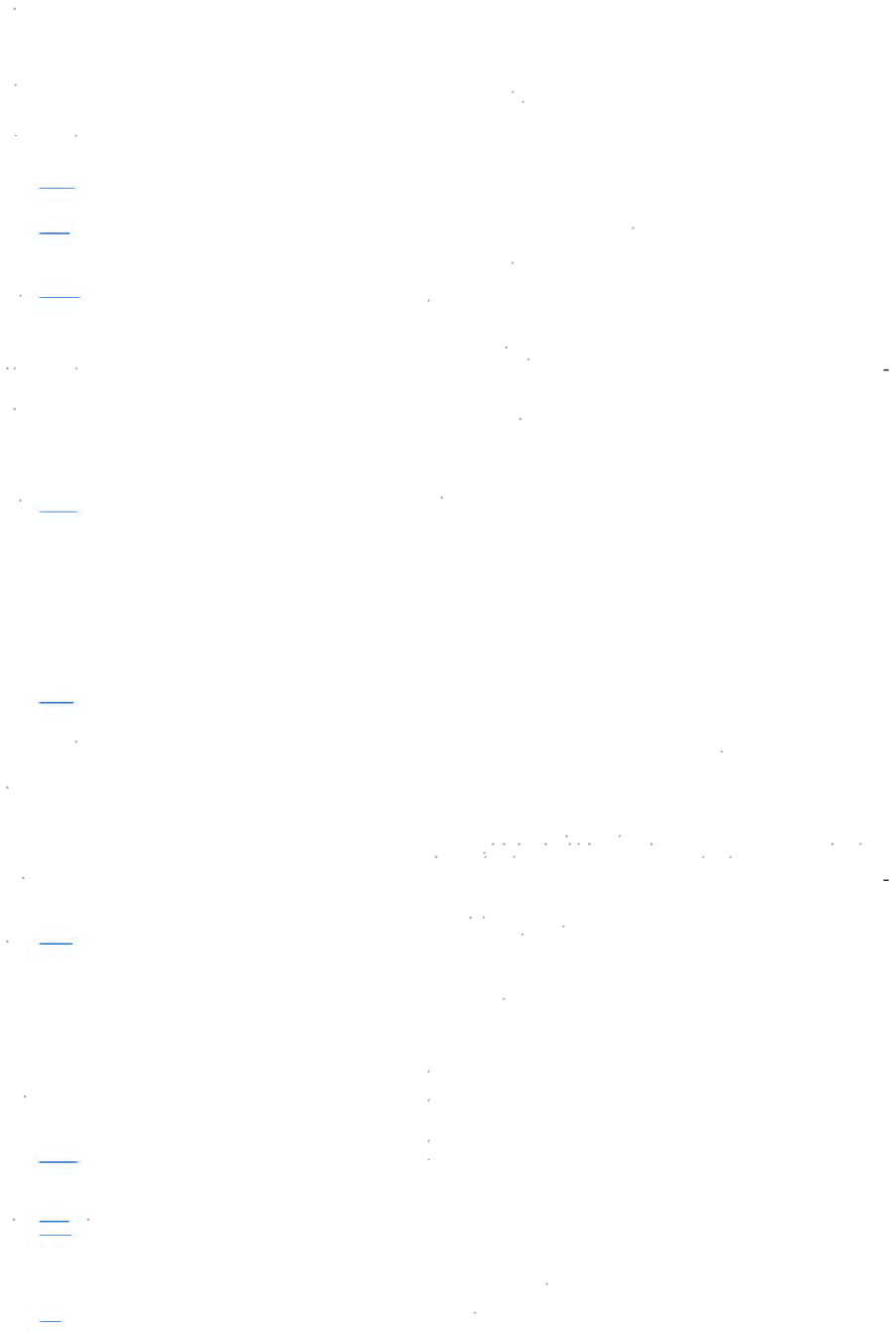
Other interesting ideas

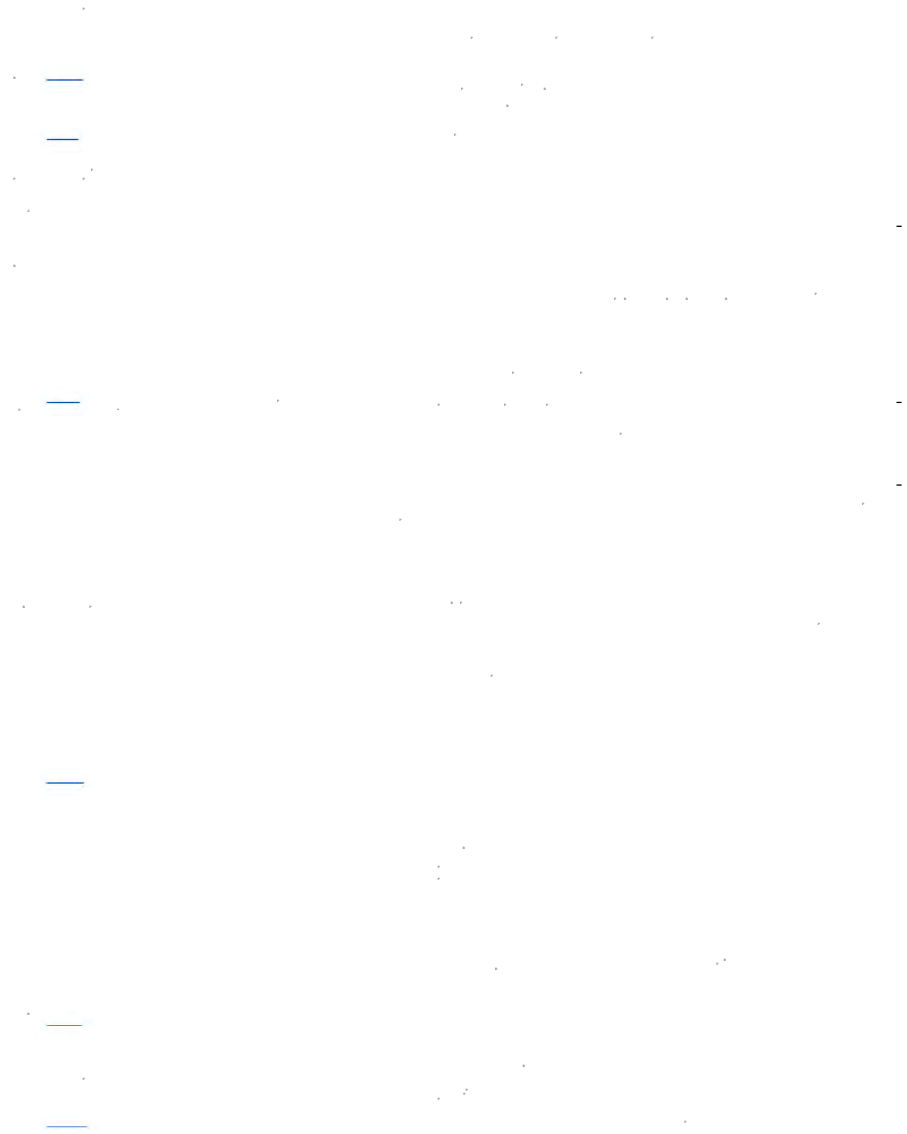
a. National Forensic Science Training Academy.
   - Association of State Criminal Investigative Agencies (ASCIA), International Association of Chiefs of Police (IACP) and Major Cities Chiefs Association (MCCA)
b. Center for excellence in digital forensics. This area was particularly called out because of the high costs associated with "keeping up."
   - Virginia Department of Forensic Science
c. Establish an office of forensic medicine within CDC and an office of forensic science within DOJ and have them work in tandem on forensic science issues.
   - NAME

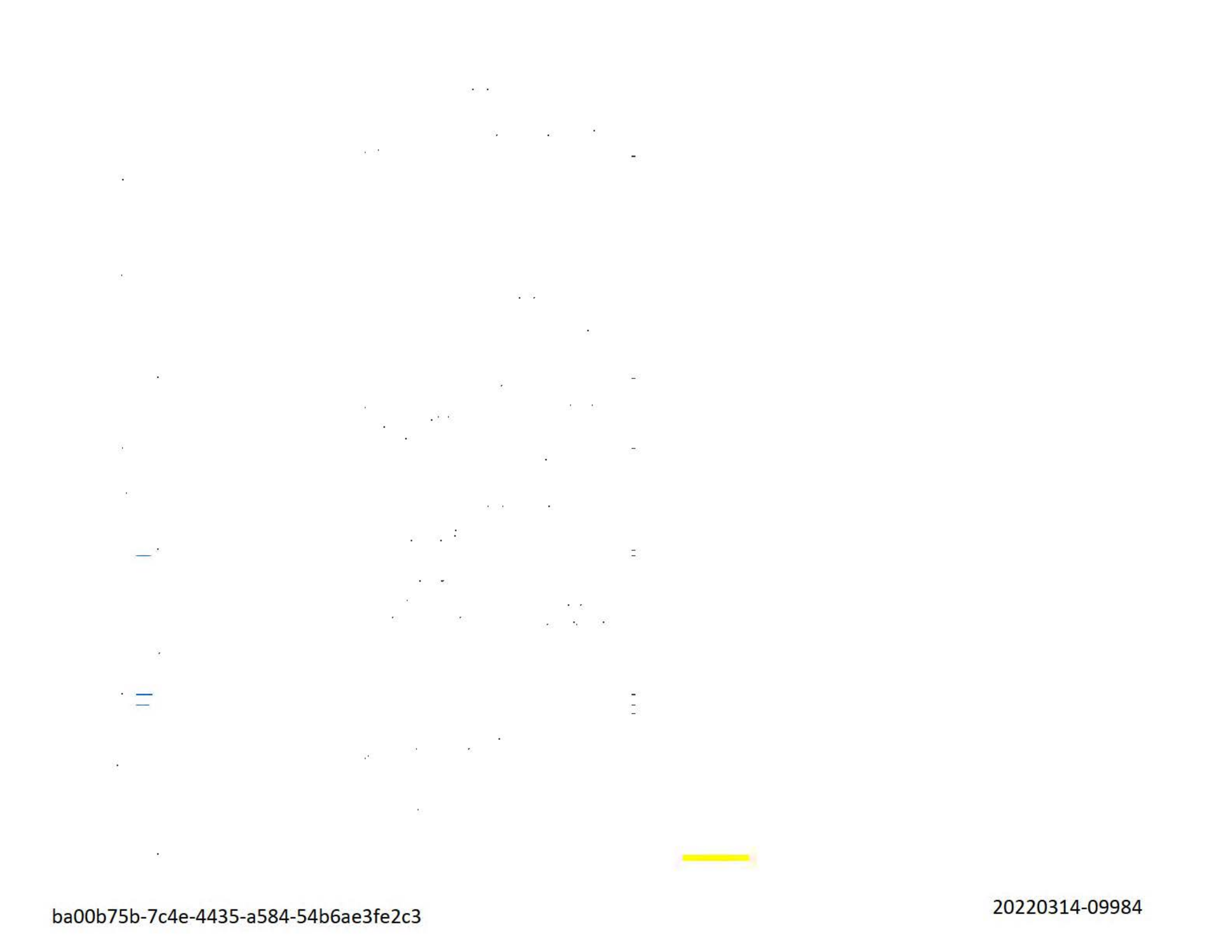












RE: FRE Conference on Forensics Moot

From: "Antell, Kira M. (OLP)" <(b) (6)
To: "Hunt, Ted (ODAG)" <(b) (6) "Shapiro, Elizabeth (CIV)" (b) (6)
Date: Tue, 10 Oct 2017 09:14:08 -0400

Ted - I put a hard copy under your door.
Bet y I have a hard copy for you a well

From: Antell, Kira M. (OLP)
Sent: Tuesday, October 10, 2017
To: Goldsmith, Andrew (ODAG) <(b) (6) Hunt, Ted (ODAG) <(b) (6) Hafer, Zachary (b) (6) v>; Young, Cynthia (USAMA) <(b) (6) tha (CRM) <(b)(6), (b)(7)(C) per CRM : Wroblewski, Jonathan (CRM) (b)(6), (b)(7)(C) per CRM >; Smith, David L. (USAEO) <(b) (6)
Cc: Shapiro, Elizabeth (CIV (b) (6) Morrissey, Brian (OAG) (b) (6) ; Crytzer, (b) (6) ; Newman, Ryan (b) (6) Thiemann, Robyn (OLP) (b) (6) ce R. (LD) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI (b)(6), (b)(7)(C), (b)(7)(E) per FBI (OGC) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI
Subject: Conference on Forensics Moot

Good morning,

In advance of our foren ic moot tomorrow, I have attached an e binder than contain bio and ummarie of ympo ium participants and additional information on PCAST and FRE 702 proposals.

Thanks,
Kira

-----Original Appointment-----
From: Antell, Kira M. (OLP)
Sent: Thursday, October 5, 2017 8:19 AM
To: Antell, Kira M. (OLP); Goldsmith, Andrew (ODAG); Hunt, Ted (ODAG); Hafer, Zachary (USAMA); Young, Cynthia (USAMA); Ibrahim, Anitha (CRM); Wroblewski, Jonathan (CRM); Smith, David L. (USAEO)
Cc: Shapiro, Elizabeth (CIV); Morris G); Crytzer, Katherine (OLP); Newman, Ryan (OLP); Thiemann, Robyn (OLP); Isenberg, Alice R. (LD) (FBI); (b)(6), (b)(7)(C), (b)(7)(E) per FBI (OGC) (FBI)
Subject: FRE Conference on Forensics Moot
When: Wednesday, October 11, 2017 3:00 PM-4:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: OLP Conference Room 4525 and Conference Line: (b) (6) /Passcode: (b) (6)

From: Antell, Kira M. (OLP)
Sent: Tuesday, October 3, 2017 11:53 AM
To: Goldsmith, Andrew (ODAG) <(b) (6) Hunt, Ted (ODAG) <(b) (6) Hafer, Zachary (USAMA) <(b) (6) >; Young, Cynthia U A) <(b) (6) >; Ibra Anitha (CRM) <(b)(6), (b)(7)(C) >; Wroblew Jonathan (CRM) <(b) (6) >; Smith, Dav d L. (USAEO) <(b) (6) >
Cc: Shapiro, Elizabeth (CIV) <(b) (6) >
Subject: FRE Conference on Forensics Moot

Good morning,

As you know, the Advisory Committee on Evidence is holding a mini-conference on forensics on 10/27 in Boston at which they will discuss potential changes to FRE 702. I have attached the conference memo here. Also, in the event you're not dialed into late night TV, enjoy this John Oliver piece on forensics.
http //theweek com/ peedread /728186/john oliver take law into hand fight junk foren ic cience ince trump wont

Ted Hunt and Andrew Goldsmith are on the forensics panel and Zach Hafer is on a more general Daubert panel Betsy Shapiro and Rob Hur will be attending as members of the committee. Cynthia Young and I will also be at the conference.

Betsy and I think it would be helpful to conduct a few moots beginning this week or next week. I have suggested some times below Please let me know if you're able to attend any of these Also, let me know if you feel there are others I should include moving forward.

Friday, 10/6: 11:00 or 2:00
Wednesday, 10/11: 11:00 or 3:00
Thursday, 10/12: 2:30 or 3:30

Kira Antell
Senior Counsel
Office of Legal Policy
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530
(b) (6)
(b) (6)

ADVISORY COMMITTEE ON EVIDENCE RULES

Symposium on
Forensic Evidence and Rule 702

Boston College School of Law
October 27, 2017

ADVISORY COMMITTEE ON EVIDENCE RULES
SYMPOSIUM ON FORENSIC EVIDENCE AND RULE 702

TAB 1:
ADVISORY COMMITTEE MATERIALS

FORDHAM

University School of Law

Lincoln Center, 150 West 62nd Street, New York, NY 10023-7485

Daniel J. Capra
Philip Reed Professor of Law

Phone: (b) (6)
e-mail: (b) (6)

Memorandum To: Advisory Committee on Evidence Rules
From: Daniel J. Capra, Reporter
Re: Symposium on Forensic Expert Testimony, *Daubert* and Rule 702
Date: October 1, 2017

This memorandum provides some background on the symposium that is going to be held the day after the Committee's Fall 2017 meeting. The symposium is about two topics: 1. Recent challenges to forensic expert testimony; and 2. Problems in applying *Daubert* more generally. The fundamental objective as to both topics is to provide the Committee with input on what the problems are, and whether rulemaking is a good option for trying to solve them. The panel consists of distinguished scientists, judges, academics and practitioners.

The format of the Symposium is to allow each participant to make a presentation of around 10 minutes in length. There will at various points be an opportunity for questions and comments from Committee members and general discussion among the participants. The estimate is that the first panel, on forensic evidence, will run from 8:30-11:15. The second panel, on *Daubert,* is estimated to run from 11:30-1:00.

We are very thankful to Boston College Law School and Dean Rougeau for hosting this conference and Committee meeting. And we must give an extra special thanks to Dan Coquillette for all his wonderful work in making this Symposium happen.

This memorandum first sets forth the Symposium agenda --- a list of speakers and topics. Next, it provides some background about the genesis of the Symposium. Third, it discusses briefly the possible role of rulemaking in regulating forensic expert testimony.

Attached to this memorandum is the report of the President's Council of Advisors on Science and Technology (PCAST) on forensic expert testimony. That report establishes the foundation for discussion on the forensic panel. Also attached to this memo is a bio for each Symposium participant.

Symposium Participants and Presentations

Here is a list of Symposium participants, in order of speaking, and their chosen topics:[1]

Panel One: Forensic Evidence

Scientists

Dr. Eric Lander, President and founding director of the Broad Institute of MIT and Harvard; co-chair of the President's Council of Advisors on Science and Technology (PCAST).

Topic: The PCAST Report

Dr. Karen Kafadar, Commonwealth Professor & Chair of Statistics at University of Virginia.

Topic: Distinguishing Opinion and Relevance From Demonstrably Sufficient Science

Rule 702 allows a witness to testify "in the form of an opinion or otherwise" if "the testimony is based on sufficient facts or data" and "is the product of reliable principles and methods" that have been "reliably applied". The determination of "sufficient" (facts or data), and whether the "reliable principles and methods" relate to the scientific question at hand, involve more discrimination than the current Rule 702 may suggest. Using examples from latent fingerprint matching and trace evidence (bullet lead and glass), Dr. Kafadar will offer some criteria that scientists often consider in assessing the "trustworthiness" of evidence, to enable courts to better distinguish between "trustworthy" and "questionable" evidence. The codification of such criteria may ultimately strengthen the current Rule 702 so courts can better distinguish between demonstrably scientific sufficiency and "opinion" based on inadequate (or inappurtenant) methods.

Dr. Bruce Budowle, Director of the Center for Human Identification, University of North Texas Science Center.

Topic: TBD

Dr. Itiel Dror, University College London (UCL) and Cognitive Consultants International.

Topic: "Reliability and Biasability of Expert Evidence"

[1] It is possible that speaker order, topics, and even speakers will change between the time this memo is distributed and the time of the Symposium.

Expert evidence is often based on human perception, judgement, interpretation and decision making. These often include subjective elements. Subjectivity is not necessarily a bad thing, but it can introduce two major concerns. First, reliability (in the scientific sense of consistency and reproducibility), that is, will different experts reach the same conclusions (the inter- between-expert reliability); and more basic, will the same expert, examining the same data, reach the same conclusions (the intra- within-expert reliability). The second concern is biasability, the biasing influence of irrelevant contextual information, as well as target driven bias (whereby the experts work 'backward' from the 'target' suspect to the evidence, rather than the evidence itself driving the forensic work). The Hierarchy of Expert Performance (HEP) demonstrates that expert evidence suffers from both issues of reliability and biasability, even in forensic fingerprint and mixture DNA evidence.

The problem is that forensic evidence is often misrepresented in court and is incorrectly regarded by most jurors (as well as judges, and the forensic experts themselves) as objective and impartial evidence. It is therefore important to make sure that there are minimal misconceptions about the true nature and weaknesses of forensic evidence. Furthermore, that the courts make sure that steps are taken by experts to deal with those weaknesses, such as LSU - Linear Sequential Unmasking (which stipulates that experts should only be exposed to relevant information and methods for ensuring experts work from the evidence to the suspect, not backwards). When expert evidence fails to meet these standards, it is biased and unreliable, and then it should be excluded. The fear of evidence being excluded will make a much needed positive impact on the way forensic work is carried out, resulting in evidence that is more impartial and reliable.

Dr. Thomas Albright, Professor and Conrad T. Prebys Chair, Salk Institute for Biological Studies.

Topic: Why Eyewitnesses Fail

Eyewitness identifications play an important role in the investigation and prosecution of crimes, but it is well known that eyewitnesses make mistakes, often with serious consequences. In light of these concerns, the National Academy of Sciences recently convened a panel of experts to undertake a comprehensive study of current practice and use of eyewitness testimony, with an eye towards understanding why identification errors occur and what can be done to prevent them. The work of this committee led to key findings and recommendations for reform, detailed in a consensus report entitled Identifying the Culprit: Assessing Eyewitness Identification. In this presentation, Dr. Albright will focus on the scientific issues that emerged from this study, along with brief discussions of how these issues led to specific recommendations for additional research, best practices for law enforcement, and use of eyewitness evidence by the courts.

Susan Ballou, Program Manager for the Forensic Sciences Research Program, National Institute of Standards and Technology (NIST).

Topic: Getting The Science Right – Not The Focus of Rule of Evidence 702

- Measurement science provides basis for testimony – data driven results required to justify position.
- Science is presented with increased specificity and certainty – supporting the selected principles and methods

Judiciary

Hon. Alex Kozinski, Circuit Judge, Ninth Circuit Court of Appeals

Topic: TBD

Hon. Jed S. Rakoff, District Judge, Southern District of New York

Topic: The Problem of Experts Overstating a "Match"

Hon. K. Michael Moore, Chief Judge, Southern District of Florida

Topic: The Need for a Flexible Rule

Chief Judge Moore will be discussing the need for a flexible rule to enable trial court judges to assess the admissibility of expert opinions, especially as the legal landscape evolves. Specifically, Chief Judge Moore will address recent developments in drug prosecutions pertaining to synthetic drugs and assessing the reliability of experts in this area.

Academics

Professor Ronald J. Allen, John Henry Wigmore Professor of Law, Northwestern Pritzker School of Law

Topic: Fiddling While Rome Burns: the Story of the Federal Rules and Experts.

Worrying about the "reliability" of some discipline with little assurance that it is has been applied correctly, and less assurance that the fact finder understands it, is to fiddle while Rome burns. This point derives from Professor Allen's papers that explored the distinction between educational and deferential models of decision making.

Professor David H. Kaye, Distinguished Professor and Weiss Family Scholar, Penn State Law School

Topic: Why Has Rule 702 Failed Forensic Science?

Eight years ago, a committee of the National Academy of Sciences concluded that "[i]n a number of forensic science disciplines, forensic science professionals have yet to establish either the validity of their approach or the accuracy of their conclusions, and the courts have been utterly ineffective in addressing this problem." The committee also observed that "[f]ederal appellate courts have not with any consistency or clarity imposed standards ensuring the application of scientifically valid reasoning and reliable methodology in criminal cases involving *Daubert* questions." This situation, it added, was "not surprising" given that *Daubert* is so "flexible."

This presentation will elaborate on these conclusory remarks in four ways (time permitting). First, it will describe how ambiguities and flaws in the terminology adopted in *Daubert* combined with the opaqueness of forensic-science publications and standards have been exploited to shield some test methods from critical judicial analysis. Second, to promote an improved understanding of the necessary foundations for scientific and other expert testimony, it will sketch various meanings of the terms "validity" and "reliability" in science and statistics on the one hand, and in the rules and opinions on the admissibility of expert evidence, on the other. In this regard, it will skeptically consider the two-part definition of "validity" in a 2016 report of the President's Council of Advisors on Science and Technology and will question the report's effort to draw a bright line for the "validity" of pattern-matching testimony. Third, it will ask if the Federal Rules of Evidence should be revised to conform more closely to the usual scientific terminology. Finally, it will identify four ways to indicate uncertainty in forensic findings and will propose requiring statements about uncertainty when reporting outcomes of scientific tests.

Professor Jonathan J. Koehler, Beatrice Kuhn Professor of Law at Northwestern Pritzker School of Law

Topic: Rule 702(b) – "sufficient facts or data" In the Context of Source Opinion Testimony by Forensic Experts.

Professor Jane Campbell Moriarty, Carol Los Mansmann Chair in Faculty Scholarship, Duquesne University School of Law

Topic: Judicial Gatekeeping of Forensic Science Feature-comparison Evidence.

Courts generally admit such evidence, despite little proof of scientific reliability. Why are courts generally unreceptive to challenges about the reliability of such evidence? It may be that judges (like most people) perceive feature-comparison evidence as fairly straightforward and intuitively accurate. This perception may cause courts to employ heuristic approaches to the evidence—that is, cognitive shortcuts that manage complexity—which can be influenced by common cognitive biases, such as belief perseverance and confirmation bias. By understanding that feature-comparison "matching" is a complex, multifaceted process, courts might engage in a deeper, science-based review to better analyze the shortcomings and limitations of such evidence.

Professor Erin Murphy, N.Y.U. Law School

Topic: Machine-Generated Forensic Evidence

Technology has dramatically changed the shape of evidence in criminal courts. Forensic comparisons increasingly rely on machine-generated information, such as the DNA match statistics produced by a probabilistic genotyping software program or the location data reported by a cell phone tracker. This talk probes whether rules designed for viva voce confrontation of isolated pieces of evidence require tweaking when applied to machine-generated evidence.

Special Commentary by Professor Charles Fried, Beneficial Professor of Law, Harvard Law School.

Practitioners

Ted Hunt, Senior Advisor on Forensics, United States Department of Justice

Topic: The PCAST Report

Mr. Hunt will speak directly to the PCAST report and offer the Department's official position on the report.

Andrew Goldsmith, Associate Deputy Attorney General and National Criminal Discovery Coordinator, United States Department of Justice

Topic: The Reliability of the Adversarial System to Inform Factfinders About Any Genuine Issues as to the Reliability or Accuracy of Forensic Testimony.

Chris Fabricant, Joseph Flom Special Counsel and Director of Strategic Ligation, The Innocence Project

Topic: The 702 Requirement of Reliable Application

Mr. Fabricant will discuss 702/*Daubert* as it relates to forensic sciences, with a particular focus on FRE 702(c)'s requirement that the testimony at issue be the product of reliable principles and methods, and how this requirement has been interpreted by courts in criminal cases.

Anne Goldbach, Forensic Services Director, Committee for Public Counsel Services, Public Defender Agency of Massachusetts.
Topic: TBD

Panel Two: Rule 702 and Daubert

Judiciary

Hon. Patti B. Saris, Chief Judge, District of Massachusetts

Topic: Daubert Gatekeeping and Complex Scientific Concepts

Chief Judge Saris will address the challenges to courts in addressing *Daubert* motions where the scientific concepts are complex, like patent litigation or product liability. Her perspective is that *Daubert* does not have the liberalizing effect the Supreme Court anticipated but actually makes it harder to have expert evidence introduced. She will outline different approaches courts use to understand the science (like tutors).

Hon. Jed S. Rakoff, District Judge, Southern District of New York

Topic: How Daubert is Working in Non-Forensic Cases, and How Trial Judges seek to Avoid Daubert Rulings.

Hon. Paul W. Grimm, District Judge, District of Maryland

Topic: Structural Impediments for Judges Applying Rule 702 in Criminal Cases

Courts encounter special difficulties in making reasoned *Daubert* rulings in criminal cases. Structural impediments include: 1) the speed at which criminal cases proceed; 2) the significantly less helpful criminal expert disclosure rules as compared with the civil rules disclosures; 3) the overlay of the plea bargaining process and pressure on defendants not to file motions; and 4) resource limits on the ability of public defenders and CJA panel counsel on hiring forensic experts. These limitations make it very difficult for trial judges to get the information they need to perform a *Daubert*/Rule 702 analysis sufficiently far in advance of trial.

Practitioners

Zachary Hafer, Assistant U.S. Attorney, District of Massachusetts

Title: Daubert From the Perspective of a Prosecutor

Mr. Hafer will address Judge Grimm's remarks and speak further about the challenges of applying *Daubert* from the prosecutor's perspective.

Carrie Karis, Kirkland & Ellis, Chicago

Title: TBD

Lori Lightfoot, Mayer Brown, Chicago

Title: Making the Gatekeeping Function Meaningful

Experience shows *Daubert* motions have become perfunctory, i.e. it is assumed that such motions will be filed, and not attacking an expert through a *Daubert* motion is the exception, not the rule --- which obviously is not the intent. Experience also indicates judges are very reluctant to grant a *Daubert* motion if there is even a colorable argument in support of the expert's proffered testimony. So, the challenge is how to have the rule serve as an appropriate gatekeeper without barring legitimate testimony, given the significant role that experts can play in a trial. Another issue is whether, and to what extent, the rulings on the *Daubert* motions influence the settlement decision.

Lyle Warshauer, Warshauer Law Group, Atlanta

Topic: A Notice Requirement

Ms. Warshauer will speak on a proposal to require notice of intent to challenge an expert under Rule 702, and the ability to amend.

Thomas M. Sobol, Hagens Berman, Boston

Title: TBD

Academic

Professor Stephen A. Saltzburg, Wallace and Beverley Woodbury University Professor, George Washington University Law School

Title: The Challenges Imposed by Daubert on Criminal Defense Counsel

Background Information on the Recent Challenges to the Reliability of Forensic Evidence

The idea for this Symposium originated in a contact between Professor Charles Fried and the Reporter --- a contact suggested by Dan Coquillette. The President's Council of Advisers on Science and Technology (PCAST) was working on a report on forensic evidence, and the question arose as to whether the Advisory Committee on Evidence Rules might have a role in implementing a set of "Best Practices" rules for certain kinds of forensic expert testimony. This Symposium is the first step in considering that question.

The best background for considering whether rulemaking has a role in addressing the challenges to forensic expert evidence is to get some idea of what those challenges are. The PCAST report --- *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* --- provides an exhaustive analysis of why certain forensic comparison methods are questionable, and how at least some of them can be strengthened so that they have validity. Particular attention is given to the problem of experts overstating their results.

The PCAST report is attached to this memorandum. It is essentially the jumping-off point for the forensics panel at this conference. It is highly recommended reading.

As noted above, there are two separate panels for this Symposium. The second panel is on *Daubert* more generally. The genesis for this panel came from discussions with members of the Committee on Rules of Practice and Procedure, when Judge Sessions reported about the Advisory Committee's intention to hold a Symposium on forensic evidence. These members suggested that it would be fruitful to look at other problems that had arisen since the 2000 amendment to Rule 702. Moreover, the Committee had been receiving suggestions from some academics that Rule 702 was being applied incorrectly. Accordingly, the Symposium's agenda was expanded to encompass some preliminary discussions on other problems in applying Rule 702 and *Daubert.* This inquiry is a beginning and not an end --- there is no attempt to be comprehensive on all the issues that have arisen in applying *Daubert* and Rule 702; Panel Two is a sampling.

Amending the Evidence Rules to Regulate Forensic Expert Testimony Explicitly?

The PCAST report advocates a role for the Advisory Committee on Evidence Rules in regulating forensic expert testimony. Whether that role would mean proposing an amendment to the Federal Rules of Evidence is unclear, and will be a matter explored at the Conference.

While a rule amendment might not be the answer, it should at least be helpful to the discussion to set forth what a rule amendment might look like. So, for purposes of discussion, what follows below is two possibilities for amendment, both of which incorporate the suggested standards from the PCAST report. After that, consideration is given to the role of a Committee Note, and to the possibility of a freestanding Best Practices Manual.

1. Amending Rule 702:

One possibility is to add an extra section to Rule 702 to govern forensic expert testimony:

Rule 702. Testimony by Expert Witnesses

(a) In General. A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

(1) ~~(a)~~ the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

(2) ~~(b)~~ the testimony is based on sufficient facts or data;

(3) ~~(c)~~ the testimony is the product of reliable principles and methods; and

(4) ~~(d)~~ the expert has reliably applied the principles and methods to the facts of the case.

(b) Forensic Expert Witnesses. If a witness is testifying on the basis of a forensic examination [conducted to determine whether an evidentiary sample is similar or identical to a source sample] [or: "testifying to a forensic identification"], the proponent must prove the following in addition to satisfying the requirements of Rule 702(a):

(1) the witness's method is repeatable, reproducible, and accurate --- as shown by empirical studies conducted under conditions appropriate to its intended use;

(2) the witness is capable of applying the method reliably and actually did so; and

(3) the witness accurately states the probative value of [the meaning of] any similarity or match between the samples.

Reporter's Comments

1. Currently Rule 702 has four subdivisions, (a)-(d). Slapping on a new subdivision (e) to cover forensic evidence would be unworkable, because the standards set forth for forensic experts definitely overlap with the existing standards. (Which perhaps means that the existing standards are sufficient to treat any concern about forensic evidence, if the courts give them meaningful application.)

2. The current subdivisions would have to be changed from letters to numbers in order to have a separate subdivision covering forensic evidence. This is not ideal, because it will upset electronic searches on a Rule that is cited and applied hundreds of times a year. That concern points toward a separate rule for forensic expert testimony, assuming one is deemed necessary.

3. There will be some difficulty in defining the scope of the enterprise, i.e., what exactly is forensic expert testimony --- hence the bracketed alternatives. The PCAST report doesn't really have a working definition that could be capsulized in rule text. Defining it as "feature comparison" (from the title of the PCAST report) is probably too narrow. Breathalyzers would probably not fall

under that definition, for example, nor would autopsy reports. Perhaps it is best just to leave it alone and simply refer to "forensic expert testimony" and maybe try to expound upon that term in a Committee Note.

2. A Separate Rule on Forensic Expert Testimony

Rule 707. Testimony by Forensic Expert Witnesses. If a witness is testifying on the basis of a forensic examination [conducted to determine whether an evidentiary sample is similar or identical to a source sample], [or: "testifying to a forensic identification"] the proponent must prove the following in addition to satisfying the requirements of Rule 702:

(a) the witness's method is repeatable, reproducible, and accurate --- as shown by empirical studies conducted under conditions appropriate to its intended use;

(b) the witness is capable of applying the method reliably and actually did so; and

(c) the witness accurately states the probative value of [the meaning of] any similarity or match between the samples.

Reporter's Comments:

1. If it is separate, it needs to be Rule 707. It would not do to bump Rules 703-706 down a notch, as that would be unnecessarily disruptive to current understandings and settled expectations.

2. Even as a separate rule, there remains a problem with the interface of the general rule and a specific rule on forensic evidence. There is unquestionably an overlap, but a freestanding rule must nonetheless refer back to Rule 702, otherwise it could be read as dispensing with the requirements of qualification and helpfulness that Rule 702 sets forth.

3. A Committee Note

The PCAST report suggests that much of the benefit that rulemaking could provide for regulating forensic expert testimony lies in the Committee Note. A Committee Note might establish some "best practices" that could be much more detailed than anything that could be provided in rule text. But one possible, and disappointing, impediment to a Committee Note alternative is that there is an oft-spoken (but unwritten) rule that Committee Notes are not to go beyond the text of the Rule. No citations, no treatise-like comment. A helpful Committee Note in this area might look like the Committee Note to the 2000 amendment to Rule 702 --- the most cited Committee Note in the Evidence Rules. But that is the kind of Committee Note that has been frowned upon in recent years. Apparently the best Committee Note that can be written is four words long: "The rules speaks for itself." But the text of a rule cannot possibly set forth a detailed list of best practices for all the forms of forensic evidence.

Assuming that a Committee Note can provide instruction beyond the text of an amendment, a Committee Note on forensic expert testimony could usefully treat the following topics:

- Defining "forensic."
- Distinguishing objective and subjective processes --- and specifying that with subjective processes there must be "black box" testing and an established rate of accuracy.
- Possibly rejecting certain fields with no validity, such as bitemark comparison.
- Critiquing the requirement (or the testimony) of a "reasonable degree of [forensic] certainty."
- Specifying that the expert must articulate the rate of error.
- Providing guidance on how a court might regulate the expert's testimony so that it does not overstate the results --- exclusion, jury instruction, etc.

No attempt is made here to draft a Committee Note to a new rule on forensic expert testimony. As the PCAST report suggests, any guidance that the Advisory Committee can give should probably be supported by consultation with scientists.

4. A Freestanding "Best Practices" Report

One possibility suggested by the PCAST report is that the Advisory Committee issue a "best practices" report on forensic evidence, independent of a rule amendment. Just recently the Advisory Committee conducted a project on a best practices manual for authenticating electronic evidence. It was determined, however, that the manual should be issued without the imprimatur of the Advisory Committee. The concern was that the best practices manual might be given the status of a rule without going through the full rulemaking process. The manual was published, but only as the work of the individual authors. The introduction to the manual did state that the project began under the auspices of the Advisory Committee. It states that: "The Judicial Conference Advisory Committee on Evidence Rules, surveying the case law, determined that the Bench and Bar would be well-served by published guidelines that would set forth the factors that should be taken into account for authenticating each of the major new forms of digital evidence that are being offered in the courts." The Best Practices Manual on Authenticating Digital Evidence was distributed to every federal judge, and it has in its first year of issuance been cited and relied upon in a number of opinions.

That same process might be used with respect to a Best Practices Manual for forensic expert testimony. The good news is that 1) it could be widely distributed; 2) it could be influential in that it would have an Advisory Committee pedigree, if not an imprimatur; 3) it could be detailed and voluminous --- unlike a rule and Committee Note; and 4) it could be updated and revised easily--- again unlike a rule and Committee Note. The bad news is that it would not have the force of law that a rule would have --- or at least that a rule *should* have.

FORDHAM

University School of Law

Lincoln Center, 150 West 62nd Street, New York, NY 10023-7485

Daniel J. Capra
Philip Reed Professor of Law

Phone: (b) (6)
e-mail: (b) (6)

Memorandum

From: Daniel J. Capra, Reporter for the Advisory Committee on Evidence Rules

Re: Symposium on Forensic Evidence and Rule 702

Date: August 9, 2017

I am pleased to confirm logistical details surrounding the Advisory Committee on Evidence Rules Symposium on Forensic Evidence and Rule 702 during October 26-27, 2017 in Boston.

Schedule
Friday, October 27, from 8:30a to 4:00p – Symposium and Committee Meeting

The symposium will begin at 8:30am on Friday and will conclude around 1:00pm. Following lunch, the Advisory Committee will reconvene its meeting and should conclude by 4:00 pm. You are welcome to observe the meeting on committee business Friday afternoon if it suits your schedule. But that is by no means required.

The Committee also will meet on Thursday, October 26 from 1:00 to 5:00, to discuss other matters regarding the Federal Rules of Evidence. Again, you are welcome to attend that meeting, but it is not required.

Location
Boston College School of Law
885 Centre Street, Newton Centre, MA 02459

All proceedings will be held in East Wing 200 at the law school. Meeting day meals will be hosted in nearby Barat House. If you plan to attend the committee meeting on Thursday, please join for lunch at 12p. For the symposium on Friday, you are invited for breakfast at 8:00a and lunch at 1:00p.

Parking

Parking will be provided for those who need it. Please let me know in advance if you do.

Committee Dinner

Thursday, October 26 at 6:45p
The Country Club
191 Clyde Street, Chestnut Hill, MA

Boston College is hosting dinner for the committee and symposium participants at the historic club that was established in 1882. The dinner menu will offer a variety of choices. You may select from the menu that evening and advise your server of any dietary needs.

Please let me know your availability for both meeting day meals and the committee dinner by September 20.

Hotel

Hilton Back Bay
40 Dalton Street, Boston, MA 02115

Committee members are staying at the Hilton Back Bay and there are ten (10) rooms available under an existing block for symposium members at a rate of $296/night. You will be able to settle your hotel bill upon check out.

Please let Shelly Cox know if you would like a room by August 30. Her contact information is (b) (6) or (b) (6) . ***After August 30, the rooms will be released and you will need to make your own reservation.***

Ground Transportation

Shuttle service for the committee will be extended to symposium participants opting to stay at the Hilton Back Bay. The shuttle will operate for the dinner and meeting/symposium and the timing will be provided closer to the event date. Taxi service and Uber drivers are readily available in the area as needed.

FORDHA

ers ty School of Law

Linc ln Center, 150 West 62nd Street, New Y rk, NY 10023-7485

Daniel J. Capra o Ph ne: (b) (6)
Philip Reed Pr fess r f Law o e-mail: (b) (6)

Mem randum T : Advis ry C mmittee n Evidence Rules
Fr m: Daniel J. Capra, Rep rter
Re: Fall C nference n Rule 702
Date: April 1, 2017

As discussed at the last C mmittee meeting, the Advis ry C mmittee n Evidence Rules is preparing a C nference n Rule 702 --- specifically n devel pments regarding expert testim ny that might justify an amendment t Rule 702. The maj r devel pment t be addressed is the challenges raised in the last few years t f rensic expert evidence. In 2009, the Nati nal Academy f Sciences issued an imp rtant rep rt, c ncluding that many f rensic techniques were n t scientific. This rep rt has led t many new challenges t such f rensic testim ny as ballistics, bite mark identification, and handwriting identification. Then a few months ago the President's C uncil f Scientific and Technical Advis rs (PCAST) issued a detailed rep rt challenging the reliability f vari us f rms f f rensic testim ny and pr viding suggesti ns f r h w these f rensic inquiries can be validated. The Chair f PCAST c ntacted the Rep rter f the Evidence Rules Committee to brainstorm on how the PCAST suggestions might be implemented as "best practices" under Rule 702. The Conference n Rule 702 is the first step in that pr cess.

Besides the new challenges t f rensic expert testim ny, there are a number f ther issues regarding expert testim ny that judges and members f the public have asked the C mmittee t review. Am ng them are:

- Are courts accurately applying the admissibility factors established in the 2000 amendment t Rule 702 --- specifically that the expert must have a sufficient basis and the meth d l gy must be reliably applied?

- How should a court assess the reliability f n n-scientific or "soft science" experts?

- What special pr blems in evaluating challenges t expert testim ny arise in criminal cases? o

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The Con e en e ll be onvened to d s uss all o the above ssues, though the majo o us ll be on o ens expe ts.

The Con e en e ll take pla e be o e the Fall Committee meet ng on F day, tobe 27, 2017 at Boston College La S hool. The Con e en e ll beg n at 8:30 a.m. and t s ant pated that t ll un ove nto the a te noon.

So a e have ommitments om the ollo ng people to make p esentat ons at the Con e en e:

- Judge Alex Kozninski, Ninth Circuit Court of Appeals
- Judge Jed Rakoff, Southern District of New York
- Judge Amy St. Eve, Northern District of Illinois
- Judge Paul Grimm, District of Maryland
- Dr. Eric Lander, Harvard University, Broad Institute, Chair of PCAST
- Professor Charles Fried, Harvard Law School
- Professor Jonathan Koehler, Northwestern University Law School

We nv te and seek the Committee's recommendations on othe pa t pants ho should be nv ted. We also seek nput on othe ssues and p oblems ega d ng Rule 702 that m ght be the subje t o d s uss on at the Con e en e.

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Mem randum T : Advis ry C mmittee n Evidence Rules
Fr m: Daniel J. Capra, Rep rter
Re: Public c mment suggesting an amendment t Rule 702
Date: Oct ber 1, 2016

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Tw members f the public --- Pr fess r David Bernstein and Eric Lasker, Esq.--- have submitted a pr p sal t amend Evidence Rule 702. It is the C mmittee's resp nsibility t c nsider suggesti ns fr m the public f r change t the Evidence Rules. This mem is designed t assist the c mmittee in exercising that resp nsibility.

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The pr p sal t amend Rule 702 is set f rth in an article in 57 William and Mary Law Review 1 (2015). This mem summarizes the suggesti ns f r change and the stated reas ns f r change, and analyzes whether an amendment may be necessary. The mem is divided int three parts. Part One discusses the 2000 amendment t Rule 702, which is the f cus f the article. Part Tw discusses the auth r's c mplaints ab ut case law that ign res r misapplies Rule 702 as it has been amended, and sets f rth the auth rs' pr p sed amendment t Rule 702, which is intended t bring wayward c urts back int line. And Part Three pr vides the Rep rter's bservati ns n the auth rs' pr p sed amendments.

I. The 2000 Amendment to Rule 702

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The auth rs f cus n the secti n f Rule 702 that was amended in 2000, in resp nse t *Daubert v. Merrell Dow Pharm.,* 509 U.S. 579 (1993), and its pr geny. That part f Rule 702 sets f rth the f ll wing reliability-based requirements f r expert testim ny t be admissible:

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> (b) the testim ny is based n sufficient facts r data;
>
> (c) the testim ny is the pr duct f reliable principles and meth ds; and

(d) the e e t h eli bly lied the inci le nd method to the f ct of the c e.

The 2000 mendment w de igned to di till nd codify the m ny t nd of doct ine th t t ted in *Daub rt* nd th t we e develo ed in l te c e l w in both the Su eme Cou t (*G n ral El ctronic v. Join r* nd *Kumho Tir v. Carmicha l*) nd in the lowe cou t . The go l w to ovide ome t uctu e fo cou t nd litig nt , o th t they would not h ve to t udge th ough ll the c e l w to dete mine wh t t nd d needed to be met befo e the t i l judge could dmit e e t te timony.[1]

Admissibility Requirements Added by the 2000 Amendment:

The 2000 mendment dded th ee dmi ibility equi ement to Rule 702. A e tyled, the e e ubdivi ion (b), (c) nd (d). St ictly e king, only ubdivi ion (c), equi ing eli ble inci le nd method , c n be found e licitly in *Daub rt.* But when the Advi o y Committee looked ove the v t o t-*Daub rt* c e l w, well the unde lying inci le in *Daub rt, Join r and Kumho,* it w th t the othe two equi ement h d been e t bli hed well. The othe two equi ement --- ufficient b i nd o e lic tion --- e obviou ly equi ed if the go l i to u e th t e e t te timony mu t be eli ble to be dmi ible. They e e lly in e ble f om the equi ement of eli ble inci le nd method . A ho t di cu ion of the e f cto will e l in the oint.

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Subdivision (b) --- Suffici nt facts or data: The equi ement of ufficient f ct o d t me n th t n e e t' o inion mu t be g ounded in ufficient inve tig tion o e e ch. Some h ve c lled it the "homewo k" equi ement ---- the e e t mu t h ve done he homewo k befo e te tifying. To t ke im ple e m ple, n e e t hould not be e mitted to te tify to c u tion in to ic to t c e on the b i of tudie th t h ve been conducted, if he h only looked t m ll e cent ge of tho e tudie . Reviewing tudie might well be eli ble method fo coming to conclu ion, but if you don't e d enough of them --- o if you che y- ick them --- the o inion th t i d wn will be un eli ble. Simil ly, ume th t hyd ologi t i c lled to te tify th t cont min ted w te f om n indu t i l l nt flowed into the l intiff' well fou mile w y. The eli ble method fo th t conclu ion i to t ke m ple t v iou oint to t ck the unde g ound w te flow. But if the e e t h t ken only one m ple, he would be elying on in ufficient f ct o d t . Fin lly, ume th t n ccidentologi t would te tify to the c u e of n ccident, but neve bothe ed to view the ccident cene. No m tte how eli ble the methodology, the cl im c n be m de th t the o inion i ecul tive bec u e it i in ufficiently g ounded in the f ct o d t . *S , .g., P ll ti r v. Main Str t T xtil s, LP,* 470 F.3d 48 (1 t Ci . 2006) (e e t on fety ctice w o e ly e cluded bec u e he neve in ected the f cilitie nd equi ment t i ue, nd o he l cked ufficient f ct o d t on which to b e n o inion).

[1] Anothe go l, f nkly, w to i ue Committee Note th t would ovide ub t nti l nd det iled guid nce into the me ning of *Daub rt* nd it ogeny; th t would in t uct on how to u e the *Daub rt* f cto ; nd th t would i t cou t nd litig nt in dete mining which que tion bout e e t would go to weight nd which to dmi ibility. Bec u e Committee Note c nnot be f ee t nding, n mendment w nece y; the mendment w intended to codify, not to de t f om *Daub rt*. The Rule 702 Committee Note, by the w y, h been cited by cou t mo e time th n ny othe Committee Note in the Evidence Rule .

Subdivi i d --- Reliable applicati : The Court i *Daubert* declared that the "focus, of course, must be solely o pri ciples a d methodology, ot o the co clusio s they ge erate." 509 U.S. at 595. Yet as the Court later recog ized, "co clusio s a d methodology are ot e tirely disti ct from o e a other." *Ge eral Elec. C . v. J i er*, 522 U.S. 136, 146 (1997). U der the ame dme t, as u der *J i er*, whe a expert purports to apply pri ciples a d methods i accorda ce with professio al sta dards, a d yet reaches a co clusio that other experts i the field would ever reach, the trial court may fairly suspect that the pri ciples a d methods have ot bee faithfully applied. As the Advisory Committee Note states, the ame dme t "specifically provides that the trial court must scruti ize ot o ly the pri ciples a d methods used by the expert, but also whether those pri ciples a d methods have bee properly applied to the facts of the case." This i sight --- about the eed for court review of how the method was applied --- came from Judge Becker, i *I re Pa li R.R. Yard PCB Litig.*, 35 F.3d 717, 745 (3d Cir. 1994), where he stated that "a y step that re ders the a alysis u reliable . . . re ders the expert's testimo y i admissible. This is true whether the step completely cha ges a reliable methodology or merely misapplies that methodology."

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I sum, the 2000 ame dme t specifies that sufficie t basis a d applicatio of method are admissibility requireme ts --- the judge must be satisfied by a prepo dera ce of the evide ce that the expert has relied o sufficie t facts or data, a d that the expert has reliably applied the methods. It is ot the case that the judge ca say, "I see the problems, but they go to the weight of the evide ce." After a *prep dera ce* is fou d, the a y slight defect i either of these factors becomes a questio of weight. But ot before.

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II. The Case for an Amendment to Rule 702

Ber stei a d Lasker's primary complai t is that some lower courts have esse tially ig ored Rule 702 subdivisio s (b) a d (d). The authors state that despite the Rules Committee's clear i structio that sufficie t facts or data a d reliable applicatio are both admissibility requireme ts (to be established to the court by a prepo dera ce of the evide ce), some courts have treated them as questio s of weight --- so a y doubt about fou datio or applicatio go to the jury. The authors co clude that while the 2000 ame dme t "appeared sufficie t at the time to rei i recalcitra t judges who had tried to evade the *Daubert* trilogy's exacti g admissibility sta dards, with the be efit of hi dsight, it is ow clear that the Judicial Co fere ce failed to accou t for the te acity of those who prefer the pre-*Daubert* approach to expert testimo y."

The authors co clude, rather i sulti gly, that "the partial failure of the 2000 ame dme ts ca be attributed to faulty draftsma ship, because the ame dme ts' la guage is i sufficie tly blu t to restrai judges who are i cli ed to resist a stro g gatekeeper rule."[2]

[2] It's ice, though, that they say that the Advisory Committee, i promulgati g the 2000 ame dme t, "had o discer able age da beyo d improvi g the quality of expert testimo y admitted i America courts." Nice, but ot quite accurate. The correct stateme t is that the Committee "had o discer able age da other tha impleme ti g the sta dards of *Daubert* a d its proge y a d providi g a u iform structure for assessi g expert testimo y i light of all the case law." There is a differe ce i the two descriptio s. A y attempt to "improve the quality of expert testimo y" came from the courts, ot the Advisory Committee. Ma y public comme ts argued that the 2000 ame dme ts favored defe da ts i civil cases because of its strict sta dards. The respo se from the Committee was

A. Exam p f Wayward Ca Law

The authors c te a number of nstances n wh ch lower courts have appeared to d sregard e ther Rule 702(b) or Rule 702(d), end ng up w th rul ngs that are "far more len ent about adm tt ng expert test mony than any reasonable read ng of the Rule would allow." Here are some i examples prov ded:

1. Rule 702(b) (Sufficient Basis) Examples:

Milward v. Acuity Specialty Products Group, Inc., 639 F.3d 11 (1st C r. 2011): Here the court states that "when the factual underp nn ng of an expert's op n on s weak t s a matter affect ng the we ght and cred b l ty of the test mony --- a quest on to be resolved by the jury."

Kuhn v. Wyeth, Inc., 686 F.3d 618, 633 (8th C r. 2012): An expert who gnored stud es was excluded by the d str ct court, but the court of appeals found an abuse of d scret on, hold ng that the suff c ency of an expert's bas s s a quest on of we ght and not adm ss b l ty. *See also United States v. Finch,* 630 F.3d 1057 (8th C r. 2011) (the suff c ency of the factual bas s for an expert's test mony goes to cred b l ty rather than adm ss b l ty, and only where the test mony " s so fundamentally unsupported that t can offer no ass stance to the jury must such test mony be excluded").

In re Chantix Prods. Liab. Litig., 889 F.Supp.2d 1272, 1288 (N.D. Ala. 2012) (f nd ng that an expert's dec s on to gnore data from cl n cal tr als " s a matter for cross-exam nat on, not exclus on under *Daubert"*).

In re Urethane Antitrust Litig., 2012 WL 6681783, at *3 (D.Kan.) ("The extent to wh ch [an expert] cons dered the ent rety of the ev dence n the case s a matter for cross-exam nat on.").

Bouchard v. Am. Home Prods. Corp., 2002 WL 32597992, at *7 (N.D. Oh o) ("If the pla nt ff bel eves that the expert gnored ev dence that would have requ red h m to substant ally change h s op n on, that s a f t subject for cross-exam nat on.").

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that any compla nt about r gorous standards should be addressed to the Court --- as they came from the Court n the *Daubert* tr logy.

2. Rule 2 Reliable Application Examples:

City f P m na v. SQM N.Am. C rp. 750 F.3d 1036, 1047 (9th Cir. 2014): The case involved contamination of water, and the City's expert conducted a test to determine the source of the contaminant. There are protocols for conducting such testing and the expert deviated from the protocols. The court found that "expert evidence is inadmissible where the analysis is the result of a faulty methodology or theory as opposed to imperfect execution of laboratory techniques whose theoretical foundation is sufficiently accepted in the scientific community to pass muster under *Daubert*." For this proposition the court relied on pre-2000 9th Circuit case law. The court reversed a lower court decision to exclude the expert.

Walker v. G rd n, 46 F. App'x 691, 696 (3rd Cir. 2002)("because [plaintiff] objected to the application rather than the legitimacy of [the expert's] methodology, such objections were more appropriately addressed on cross-examination and no *Daubert* hearing was required").

United States v. Gips n, 383 F.3d 689, 696 (8th Cir. 2004): The court drew a distinction between "on the one hand, challenges to a scientific methodology, and, on the other hand, challenges to the application of that methodology." It stated that "when the application of a scientific methodology is challenged as unreliable under *Daubert* and the methodology itself is otherwise sufficiently reliable, outright exclusion of the evidence in question is warranted only if the methodology was so altered by a deficient application as to skew the methodology itself." The court relied on pre-2000 authority for this proposition.

Quiet Tech. DC-8, Inc. v. Hurel-Dub is UK Ltd., 326 F.3d 1333, 1343 (11th Cir. 2003): The court found it "important to be mindful" of a distinction between the reliability of a methodology and of the application of the methodology in the case, and rejected a *Daubert* challenge based on unreliable application, relying on case law that preceded *Daubert*.

United States v. McCluskey, 954 F.Supp.2d 1227, 1247-48 (D.N.M. 2013) ("the trial judge decides the scientific validity of underlying principles and methodology" and "once that validity is demonstrated, other reliability issues go to the weight --- not the admissibility --- of the evidence").

Pr ct r & Gamble C . v. Haugen, 2007 WL 709298, at *2 (D.Utah) ("Where the court has determined that plaintiffs have met their burden of showing that the methodology is reliable, the expert's application of the methodology and his or her conclusions are issues of credibility for the jury.").

Oshana v. C ca-C la C ., 2005 WL 1661999, at *4 (N.D.Ill.) ("Challenges addressing flaws in an expert's application of reliable methodology may be raised on cross-examination.").

United t te Ad m Bro F rming, 2005 WL 5957827, a *5 (C.D.Cal.) ("Defendan s' objec ions are o he accuracy of he exper 's applica ion of he me hodology, no he me hodology i self, and as such are properly reserved for cross-examina ion.").

See also Faigman, Slobogin and Monahan, *G tekeeping cience: U ing the tructure of cientific Re e rch to Di tingui h Between Admi ibility nd Weight in Expert Te timony,* 11 Nw. U.L.Rev. 860, 863 (2016):

> Only a minori y of cour s have required ha he judge preliminarily de ermine ha he exper 's conclusion was reliably reached using a reliable me hodology. Mos cour s hold ha he judge's sole concern is whe her he exper followed an accep able me hodology, and o her decisions have even pun ed some ypes of me hodological issues o he jury. t

3. Other Complaints of Judicial Non-compliance

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The au hors have a few o her complain s abou some of he pos -2000 cases: t

a. ***Erroneous standard of review****:*

Some appella e cour s have allegedly failed o apply he abuse of discre ion s andard o rial cour de ermina ions excluding exper es imony. The example ha he au hors give is *John on Me d John on & Co ,* 745 F.3d 557, 562 (8 h Cir. 2014), where he cour s a ed ha he "liberal admission of exper es imony" called for by *D ubert* "crea es an in riguing jux aposi ion wi h our of -repea ed abuse-of-discre ion s andard of review." The au hors accuse he cour of "paying lip service" o he abuse of discre ion s andard bu ac ually applying de novo review o he rial cour 's exclusion of exper es imony. If cour s in fac are abandoning he abuse of discre ion s andard, ha would be clear error, because he cen ral holding of *Gener l Electric Co Joiner,* 522 U.S. 136 (1997) is ha appella e cour s mus apply he abuse of discre ion s andard of review o he rial cour 's decision o admi or exclude exper es imony. t

b. ***Failure to regulate the reliability of the expert's basis:***

Some cour s have allegedly failed o assess he reliabili y of he informa ion on which an exper relies. This would be a misapplica ion no of Rule 702, bu ra her of Rule 703, which requires exper s o limi considera ion of fac s or da a o ha which is reasonably relied upon by o her exper s in he field. As *D ubert* no ed, Rule 702 mus be read oge her wi h Rule 703. The Commi ee No e o he 2000 amendmen o Rule 702 clarifies he rela ionship be ween hese wo rules in regula ing he fac s or da a on which an exper relies:

When an ex e e es on nadm ss b e nfo ma on, Ru e 703 equ es he a H cou o de e m ne whe he ha nfo ma on s of a y e easonab y e ed on by o he ex e s n he f e d. If so, he ex e can e y on he nfo ma on n each ng an o n on. oweve , he ques on whe he he ex e s e y ng on a *sufficient* bas s of nfo ma on -- - whe he admiss b e nfo ma on o no --- s gove ned by he equ emen s of Ru e 702. H

In o he wo ds, w h ega d o he ex e 's bas s of nfo ma on, Ru e 702 m poses a *quantitative* equ emen , wh e Ru e 703 m poses a *qualitative* equ emen . The au ho s, howeve , a gue ha h s nuance s os on some cou s, and ha "des e he d ec on n *Daubert* ha Ru e 702 be ead n andem w h Ru e 703, Ru e 703 s f equen y gno ed n *Daubert* ana yses." The au ho s c e as an exam pe he Seven h C cu case of *Manpower, Inc., v. Ins. Co. of Pa.,* 732 F.3d 796, 808 (7 h C . 2013), whe e he cou s a ed ha " he e ab y of da a and assum p on used n a y ng a me hodo ogy s es ed by he adve sa a ocess and de e m ned by he ju y; he cou 's o e s gene a y m ied o assess ng he e ab y of he me hodo ogy." H

c. Failure to require testing:

As he 2000 Comm ee No e em phas zes, an m po an fac o se fo h n *Daubert* (and hus n he Ru e) s ha he ex e 's me hodo ogy mus be subjec o es ng. They no e co ec y ha he Adv so y Commi ee chose no " o de nea e s ec f c s anda ds ha cou s mus em poy n egu a ng ex e es mony, and d d no add any s ec f c anguage abou he sc en f c me hod o es ab y o amended Ru e 702." Ra he , es ab y s found n *Daubert* se f and n he Comm ee No e.

The Comm ee has a ways avo ded se ng fo h s s of e evan fac o s n he ex Ev dence Ru es, on he g ound ha a Ru e s no a ea se, and any s s bound o be unde nc us ve. A so, add ng some h ng s ec f c abou sc en f c ex e es mony wou d have been odd because one of he majo o n s of he amendmen was o make c ea ha he *Daubert* ga ekee ng s anda ds a y o *all* ex e es mony, sc en f c and nonsc en f c.

In any case, he au ho s con end ha he Comm ee's dec s on no o ex c add es ab y o a s of e evan fac o s "a guab y o ened he doo fo a enewed assau on he sc en f c me hodo ogy equ emen fo he adm ss on of sc en f c es mony." The exam pe g ven fo h s "assau " s he F s C cu 's dec s on n *Milward v. Acuity Specialty Products* H *Group, Inc.* 639 F.3d 11 (1 s C . 2011), n wh ch he cou a owed an ex e o o ne abou he cause of eukem a by us ng a "we gh of he ev dence" me hodo ogy. Acco d ng o he au ho s, he we gh of he ev dence me hodo ogy s no sc en f c because s on y a hy o hes s and s no subjec o es ng.

B. The A h ' P p ed S l i n

The authors propose the ollowing amendments to Rule 702, designed to prevent the judicial waywardness that they criticize:

R le 702. Te im ony by Expe Wi ne e .

A witness who is quali ied as an expert by knowledge, skill, experience, training, or education may testi y in the orm or an opinion or otherwise i the testimony satis ies each o the ollowing requirements:

(a) the expert's scienti ic, technical, or other specialized knowledge will help the trier o act to understand the evidence or to determine a act in issue;

(b) the testimony is based on ~~su icient~~ acts or data that reliably support the f expert's opinion;

(c) the testimony is the product o reliable and objectively reasonable principles and methods; and

(d) the expert has reliably applied the principles and methods to the acts o the case and reached a[3] conclusion without resort to unsupported speculation.

Appeals o district court decisions under this Rule are considered under the abuse-o -discretion standard. Such decisions are evaluated with the same level o rigor regardless o whether the district court admitted or excluded the testimony in question.

This Rule supersedes any preexisting precedent that con licts with any[4] section o this Rule. [5]

Reading from the top, the explanation for the changes is as follows:

Amendment 1 (to the introduction) is to correct any possible misimpression that it is enough or admissibility to satis y any one o the requirements, i.e., to emphasize that each o the requirements must be met.

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[3] fThe authors use the word "his" but the Federal Rules are gender-neutral.

[4] fThe authors had "any or all" but I am pretty sure that Joe Kimball would say that any means all.

[5] These hanging, unnumbered and unlettered paragraphs are a stylistic no-no. They would have to be recon igured i they were going to be added to the rule.

Amendment t bdivi i n b)) i t req ire c rt t a re that expert are ba ing their inf rmati n n reliable fact r data --- a q alitative a e ment.

Amendment 3 t bdivi i n c)) p rp rt t add a pecific req irement that the expert' meth d l g be bject t te ting.
y

Amendment 4 t bdivi i n d)) i apparentl intended t reinf rce the p int that the trial c rt m u t eval ate applicati n a well a meth d l g .

Amendment 5 fir t hanging paragraph) w ld c dif the *Joiner* ab e f di creti n y tandard f review.

Amendment 6 ec nd hanging paragraph) w ld pr hibit c rt fr m rel ing n pre-amendment ca e law that c nflict with the R le' req irement .

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III. Rep e C mmen

The authors are absolutely right that there are a nu er of lower court decisions that do not co ly with Rule 702(b) or (d). As seen above, courts have defied the Rule's require nts --- which ste fro *Daubert*--- that the sufficiency of an expert's basis and the application of the thodology are both ad ssibility questions requiring a showing to the court by a preponderance of the evidence.

One question is whether the underlying pre ses should be reconsidered in light of the wayward case law --- should the questions of sufficient basis and reliable application continue to be considered questions of ad ssibility rather than weight? There is a strong argu nt that the Co ittee's substantive decisions were correct then and re in correct now. The require nts ste fro *Daubert's* conclusion that it is the trial judge who is the gatekeeper of reliability. It is hard to see how expert testi ony is reliable if the expert has not done sufficient investigation, or has cherry-picked the data, or has applied the thodology. The sa e "white lab coat" proble --- that the jury will not be able to figure out the expert's steps --- would see to apply equally to basis, thodology and application. So the question see to be not whether the Rule should be changed substantively, but whether the Rule can be usefully changed to ke sure that courts apply it in the way it was intended to be applied.

A look at the case law indicates that wayward courts are not confused by what Rule 702(b) and (d) say. It does not appear to be a tter of vague language. The wayward courts si ly don't follow the rule. They have a different, less stringent view of the gatekeeper function. So it would see that any language change would not be one of clarification of text, but rather one which ends up to be so thing like:

"We weren't kidding. We really an it. Follow this rule or else."

e No a nd nt to the Evidence Rules co s to id that is tasked with that ission. As will be seen in the discussion of the specific a nd nts proposed, nothing in those proposals does anything to clarify vague language. It is all in the nature of telling courts what they should already know.

So let's discuss the specific suggestions for amending Rule 702:

Amendment 1 --- Specifying that each of the subdivisions st be te is what the stylists call a "redundant intensifier." The Rule as it exists kes it perfectly clear that each of the subdivisions st be satisfied before an expert's testi ny can be ad tted. The connector is "and"; it is not "or."

It can be argued that adding the intensifier couldn't hurt. But actually it could. There could be a collateral effect, across the rules --- no other Rule has such a provision saying that all factors apply when they are connected by "and". See, e.g., Rules 701, 804(b)(1), 804(b)(3) ---

each of h ch ha e e e al adm i b l ty equ ement n ubd on , th an "and" connecto . A la ye ead ng tho e ule , h ch do not conta n an nten f e , could afte th amendment to Rule 70 make the a gument that he only had to at fy one, o a fe , of the equ ement n the e othe ule . In othe o d , f upe fluou language go ng to be added to Rule 70 , hy not to all the othe ule that a e m la ly t uctu ed? 2

Amendment 2 --- The amendment ould add a el ab l ty component to the ba equ ement. The p oblem th that that Rule 703 *already* conta n a el ab l ty component that egulate an expe t' ba . It hould be noted that an ea l e d aft of the Rule 70 amendment *did* et fo th a el ab l ty component to the ba equ ement. Publ c commenta y nd cated that th ould c eate d ff culty fo cou t and l t gant n t y ng to unpack t o epa ate ule that ould each deal th the el ab l ty of nfo mat on el ed upon by an expe t. Afte exten e d cu on and e e , the Comm ttee dete m ined that the be t cou e ould be to place the quant tat e equ ement n Rule 70 , h le eta n ng the qual tat e equ ement n Rule 703. And the Comm ttee Note, a et fo th abo e, expla ned the d ffe ent empha of each Rule. The e doe n't eem to be any need to e t that dec on. Mo eo e , the cou t that efu e to con de the el ab l ty of an expe t' ba do not eem to be confu ed by the text of the Rule . They mply a e d ega d ng the Rule . So t ould eem to be fut le to t y to f x that ecalc t ance th a textual change.

F nally, the p opo ed amendment qu zz cal becau e t el m inate the o d " uff c ent" f om Rule 70 (b) --- thu tak ng the quant tat e egulato out of the ule. The e eem s to be no ea on to do that.

Amendment 3 --- Add ng "and object ely ea onable" to the methodology equ ement an attempt to empha ze the *Daubert* equ ement of te t ng. One po ble p oblem th th change, ho e e , that t ta geted ma nly to c ent f c expe t te t mony. But Rule 70 appl e to all expe t te t mony, and h le te t ng mpo tant ac o the boa d, t can be le mpo tant fo mode of analy that a e ba ed on expe ence and judgment (uch a expe t e that ope ate ma nly on expe ence). So add ng "object ely ea onable" unl kely to do much good --- becau e e e yone kno that fo c ent f c expe t , te t ng mpo tant, and tho e cou t that back l de a e not do ng o th lack of kno ledge but athe f om a mo e l be al and flex ble e of *Daubert* that unl kely to change mply becau e of an amendment. And the change may do ome ha m n appl cat on to non- c ent f c methodolog e .

It could be a gued that add ng a efe ence to "object e ea onablene " m ght ha e been a good dea n 000. But hethe add ng t no --- at mo t a m ld mp o ement --- o th the co t of amend ng the Rule anothe th ng.

2

Amendment 4 --- Add ng a p oh b t on on peculat e op n on to ubd on (d) ome hat confound ng. An expe t' op n on m ght al o be peculat e becau e he el e on n uff c ent nfo mat on (e.g., he ne e n e t gated the acc dent cene), o becau e h methodology un el able. Speculat ene not un que to m i appl cat on. So t unclea hy

a referen e e ula ivene h uld be l a ed in ubdivi i n (d). Pu an her way, all hree requiremen are e en ially de igned reven he ex er fr m r viding e ula ive e im ony.

e nd, he au h r ' m plain ab u ubdivi i n (d) i ha ur are ju n f ll wing i --- hey are rea ing hallenge a li a i n a g ing he weigh and n he admi ibili y f he ex er ' ini n. Adding a r hibi i n n e ula ive e im ony d e n addre ha r blem a all. Wha w uld dire ly addre he r blem i "we really mean i " language. Tha language w uld addre he r blem f re al i ran e --- bu w uld i lve he r blem?

Amendment 5 --- C difying u reme C ur a e law n abu e f di re i n review an be ri i ized n f ur gr und . Fir , he Advi ry C mmi ee ha never f und i ne e ary dify a ingle, lear a e de ided by he u reme C ur . Wha w uld be he in ? I i rue ha Rule 702 i a difi a i n f *Daubert and its progeny.* Bu ha i a differen en er ri e --- rying r vide a ru ure under and hree u reme C ur a e and d zen f l wer ur a e i unlike difying a ingle u reme C ur a e wi h a lear h lding. M ore ver, if he ur are n f ll wing a dire ly a li able u reme C ur re eden , wha w uld make hem f ll w he ex f a rule?

S

S e nd, he Federal Rule f Eviden e generally g vern rial ur . They d n ver a ella e ur . There are ex e i n , u h a Rule 201, whi h ver judi ial n i e by a ella e ur , and Rule 103, whi h me ex en g vern a ella e ur by e ing andard f r re erving laim s f rial err r. Bu here i n hing in he Rule f Eviden e ab u andard f review. There w uld eemingly have be a r nger rea n g d wn ha r ad han he fa ha a few ur are allegedly aying "li ervi e" he abu e f di re i n andard.

Third, here i a ri k f lla eral n equen e if an abu e f di re i n andard i added Rule 702. Why n add he ame requiremen Rule 403, r he hear ay rule? By nega ive inferen e, nfu i n will be rai ed if he abu e f di re i n andard i added Rule 702 and n where el e.

S

F ur h, he a e ha n really been made ha he ur are ign ring *Joiner* r he abu e- f-di re i n andard, a lea in any way ha an be regula ed. In he allegedly ffending *Johnson* a e, di u ed ab ve, he ur e ifi ally a e ha i *is* a lying he abu e f di re i n andard. The ur r vide a li le h ugh ie e f h w ha andard migh be affe ed by liberal andard f admi ibili y f ex er e im ony, bu in he end i ay i i a lying he abu e f di re i n andard. Even if ha i "li ervi e" h w d e adding an abu e f di re i n andard he rule reven he ur fr m ming he ame exa re ul , and wri ing he ame exa ini n? Wha he au h r are really a king f r i a rule ha ay : "D n' ay y u are a lying he abu e f di re i n andard when y u are n really d ing ha ." Tha kind f in ru i n d e n und like a r er ubje f r an eviden e rule.

S

Amendment 6 --- A r vi i n ha he rule u er ede re-amendmen nfli ing a e law i very r blema i , be au e i g e he fundamen al na ure f difi a i n. When a rule i

enacte *efinition* it superse es prior case law that conflicts with the new rule. Otherwise wh write the rule? A ing a supersession clause to Rule 702 again raises a negative inference as to other rules --- in this case not onl as to Evi ence Rules but as to all other national rules.

IV. Conclusion

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It is certainl a problem when Evi ence Rules are isregar e b courts. An while the authors in some instances might be overstating the egree of ju icial wa war ness the fact remains that some courts are ignoring the requirements of Rule 702(b) an ( ). That is frustrating. It is what Rick Marcus refers to as "the Rulemaker's Lament." As Rick states "[t]he rulemakers ma en orse one view an isapprove another; for a ju ge who embrace the isapprove view there ma be a ten enc to resist the rule or at least not to embrace its full impact."[6] But it is har to conclu e that the problem of courts stra ing from the text will be solve b more text.

y

This is not to sa that it woul be a mistake for the Committee to revisit Rule 702 an to propose possible amen ments. While reaffirming the Rule 702 amen ments might not be reason enough that project might be couple with other possible changes. If the Committee oes want to look at Rule 702 a stronger reason for oing so woul be to etermine whether changes are necessar in light of recent public reports challenging the reliabilit of various forms of forensic evi ence. The National Aca em of Science an more recentl the Presi ent's Council of A visors on Science an Technolog (PCAST) has examine the scientific vali it of forensic-evi ence techniques— fingerprint bitemark firearm , footwear an hair anal sis --- an has conclu e that virtuall all of these metho s are unscientific an insufficientl stan ar ize . Perhaps it woul be fruitful to consi er whether these recent fin ings might support amen ing Rule 702 to provi e textual restrictions on such techniques. If that project woul be useful then a ing some emphatic text to Rules 702(b) an ( ) might be ma e part of the package. y

[6] Richar Marcus *The Rulemakers' Laments,* 81 For ham L. Rev. 1639 1643 (2013). Rick provi es a number of examples of ju icial reluctance to implement rule amen ments inclu ing amen ments to Civil Rule 26 an the a ition of Evi ence Rule 502 as to which some courts have taken "too sting a view of the rule's protections."

TAB 2:
PARTICIPANT BIOS AND SUMMARIES

Eric S. Lander, Professor, MIT and Harvard Medical School; President and Founding Director of the Broad Institute of Harvard and MIT

Previous: Co-Chair, President's Council of Advisors on Science and Technology (President Obama)

Education: Oxford, Ph.D. (Mathematics)
Princeton University, B.A. (Mathematics)

Biography

Eric Lander is a geneticist, molecular biologist, and mathematician, he has played a pioneering role in the reading, understanding, and biomedical application of the human genome. He was a principal leader of the Human Genome Project. He was the chair of PCAST when the report was issued. He is a member of the board of directors of the Innocence Project and has been critical of the use of forensic science.

Relevant Publications

Eric S. Lander & John P. Holdren, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods,* President's Council of Advisors on Science and Technology (2016).

- Following the 2009 NAS report, PCAST concluded that there are two important gaps: 1) the need for clarity about the scientific standards for the validity and reliability of forensic methods; and 2) the need to evaluate specific forensic methods to determine whether they have been scientifically established to be valid and reliable.

Eric S. Lander, Op-Ed., *Fix the Flaws in Forensic Science*, N.Y. Times (April 21, 2015). https://www.nytimes.com/2015/04/21/opinion/fix-the-flaws-in-forensic-science.html.

- Details cases of faulty DNA evidence putting innocent individuals in prison. Argues that an expert's opinion is not a reliable basis for drawing connections between evidence samples and a particular person. No expert should be allowed to testify without three things: 1) a public database of patterns from many representative samples; 2) precise and objective criteria for declaring matches; and 3) peer-reviewed published studies validating the method.

Eric S. Lander, Testimony Before the United States Senate Committee on Commerce, Science, and Space (Mar. 28, 2012).

- The interpretation of forensic evidence is not always based on valid science. This is often caused by a lack of standards for analysis and interpretation. The solution requires partnering between DOJ and NIST and NSF; DOJ to identify needs for forensic analysis and promote the widespread adoption of standards, and NIST to identify research gaps and develop specific standards and best practices. The standards should be based on input from the broad scientific community.

Eric S. Lander, Op-Ed., *Fix the Flaws in Forensic Science*, N.Y. Times (April 21, 2105), http://www.nytimes.com/2015/04/21/opinion/fix-the-flaws-in-forensic-science.html.

Lander opens by describing several cases where faulty forensic evidence (DNA, bitemark, microscopic hair analysis, and ballistics) was either thrown out as unacceptable or led to wrongful convictions. Lander asserts that an expert's opinion is not always a reliable basis for drawing connections between evidence samples and a particular person. Lander also asserts that no expert should be allowed to testify without showing three things:

- A public database of patterns from many representative samples;
- Precise and objective criteria for declaring matches; and
- Peer-reviewed published studies that validate the methods.

Karen Kafadar, Commonwealth Professor & Chair of Statistics, The University of Virginia

Previous: Professor of Statistics, Indiana University
Professor of Mathematics, University of Colorado-Denver

Education: Princeton, Ph.D. (Statistics)
Stanford, M.S. (Statistics)
Stanford, B.S. (Mathematics)

Biography

Karen Kafadar's research focuses on robust methods; exploratory data analysis; characterization of uncertainty in the physical, chemical, biological and engineering sciences; and methodology for the analysis of screening trials. She currently serves as one of the primary investigators for the Center for Statistics and Applications in Forensic Evidence (CSAFE). Funded by the National Institute for Standards and Technology (NIST), CSAFE conducts research in statistical and probabilistic foundations of pattern evidence and digital evidence that can be applied to the forensics field. She was a member of a subcommittee of the National Commission on Forensic Science and was an advisor on the PCAST report.

Relevant Publications

Michael J. Saks et al., *Forensic Bitemark Indentification: Weak Foundations, Exaggerated Claims*, 3 J.L. & Biosci. 538 (2016).

- Issues with bitemark identification demonstrate the miscarriages of justice that can occur when judges uncritically admit unvalidated expert testimony into evidence. The history of bitemark evidence suggests that: 1) the scientific community must engage more carefully with the research foundations of forensics; 2) lawyers must aggressively brief challenges to foundations of forensic techniques; and 3) judges must be more willing to carefully examine forensic evidence before admitting it.

Karen Kafadar & Steve Pierson, *Statisticians and Forensic Science: A Perfect Match*, Chance (Feb. 2016), http://chance.amstat.org/2016/02/statisticians-and-forensic-science.

- News stories about the release of those wrongly imprisoned after lengthy incarcerations have brought light to the need to strengthen the scientific foundation of many forensic science disciplines. Statistics have been historically used alongside forensic evidence. The PCAST report inspired the American Statistical Association (ASA) to create an Ad Hoc Committee on Forensic Science. This Committee played an active role in supporting reforms suggested by the PCAST report. Statistics is essential to strengthening the forensic sciences, as evident in the National Academy of Sciences' report on the use of Compositional Analysis of Bullet Lead.

National Research Council, *Forensic Analysis: Weighing Bullet Lead Evidence* (2004), http://books.nap.edu/catalog.php?record_id=10924).

- Assesses the scientific validity of Compositional Analysis of Bullet Lead (CABL) and finds that the FBI should use a different statistical analysis for the technique. Also finds that expert witnesses should make clear the very limited conclusions that CABL can support. Recommends that the FBI ensure the validity of CABL results by 1) improving documentation; 2) publishing details; and 3) improving training and oversight.

Bruce Budowle, Director of the Center for Human Identification, University of North Texas Health Science Center

Previous:	Professor, Forensic Science Research and Training Center, FBI Kinship and Data Analysis Panel, NIJ Chair, Working Group on Microbial Genetics and Forensics, FBI
Education:	Virginia Tech, Ph.D. (Genetics) King College, B.A. (Biology)

Biography

Bruce Budowle is involved in the research and validation of biotechnology and molecular genetic methodologies and also trains students. Dr. Budowle has 26 years of experience in forensic science with the Federal Bureau of Investigation. He served as research chemist at the Forensic Science Research and Training Center at the FBI Academy; was chief of the Forensic Science Research Unit in the Laboratory Division at the FBI Academy; and was a senior scientist in biology in the Laboratory Division of the FBI. Dr. Budowle is a member of the Texas Forensic Science Commission and has been critical of the PCAST report.

Relevant Publications

Bruce Budowle et al., *A Perspective on Errors, Bias, and Interpretation in the Forensic Sciences and Direction for Continuing Advancement*, 54 J. Forensic Sci. 798 (2009)

- The forensic sciences are appropriately undergoing a review. The issues surrounding error, i.e., measurement error, human error, contextual bias, and confirmatory bias, and interpretation are discussed. However, more definition and clarity of terms and interpretation would facilitate communication and understanding. Material improvement across the disciplines should be sought through national programs in education and training, focused on science, the scientific method, statistics, and ethics. To provide direction for advancing the forensic sciences a list of recommendations ranging from further documentation to new research and validation to education and to accreditation is provided for consideration. The list is a starting point for discussion that could foster further thought and input in developing an overarching strategic plan for enhancing the forensic sciences.

Itiel Dror, University College London and Cognitive Consultants International

Previous: Chair, Human Factors Committee, DOJ & NIST Advisory Committee on Forensic Science Assessment, American Association for the Advancement of Science

Education: Harvard, Ph.D. (Psychology)

Biography

Dr. Dror's academic work relates to theoretical issues underlying human performance and cognition. His research examines the information processing involved in perception, judgment and decision-making. This applied research has primarily focused on enhanced cognition through training, decision-making, and use of technology. In forensics, his primary focus has been acknowledging and minimizing human bias during review of forensic evidence (e.g., if an examiner knows the facts surrounding a case he or she may be unconsciously biased). Dr. Dror was a member of a subcommittee to the National Commission on Forensic Science.

Relevant Publications

Itiel Dror et al., Letter to the Editor, *The Bias Snowball and the Bias Cascade Effects: Two Distinct Biases that May Impact Forensic Decision Making*, 62 J. Forensic Sciences (2017).

- Bias Cascade occurs when irrelevant information cascades from one phase of an investigation to another (e.g. from initial collection to evaluation). To prevent bias cascade, it is best to have different people involved in various stages of the investigation. Additionally, examiners should only convey information that is relevant and directly needed for the next stage. The Bias Snowball Effect occurs when bias cascades from one phase to the next, but also increases as irrelevant information from different sources is integrated and influences each other.

Itiel Dror and Patricia A. Zapf, *Understanding and Mitigating Bias in Forensic Evaluation: Lessons from Forensic Science*, 16 Intl J. Forensic Mental Health 227 (2017).

- The article examines and considers the various influences that bias observations and inferences in forensics. The article also proposes solutions to each source of bias. There are seven different levels where various influences can interfere with objective forensic examination:

    1. Cognitive Architecture and the Brain: the brain automatically sorts information for efficiency and relevance, which can lead to bias. Mitigate by recognizing and adding countermeasures.
    2. Training and motivation: there is a tendency to pull towards the side you are working on behalf of (prosecution or defense).
    3. Organizational factors: Language used to describe something can have profound effect on one's opinion of that thing. Mitigate by introducing structure at the institutional level and use language with specific definition and meaning.
    4. Base rate expectations: To what extent do forensic examiners accept science without questioning it?

5. Irrelevant case information: inferences made by others and irrelevant information can have a cascade and a snowball effect. Careful and systematic documentation of what is being considered and how the pieces of data affect one another can help mitigate the bias.
6. Reference materials: contextual information included in reference material can be majorly biasing and tempt examiners with confirmation bias.
7. Case evidence: contextual information in case files can be majorly biasing and tempt examiners into confirmation bias.

Thomas Albright, Professor and Conrad T. Prebys Chair, Salk Institute for Biological Studies

Education: Princeton, Ph.D. (Psychology and Neuroscience)
University of Maryland, B.S. (Psychology)

Biography

Dr. Thomas Albright is an authority on the neural basis of visual perception, memory, and visually guided behavior. His laboratory seeks to understand how perception is influenced by attention, behavioral goals, and memories of previous experiences. Dr. Albright currently serves on the National Academy of Sciences Committee on Science, Technology, and Law. He served as co-chair of the National Academy of Sciences Committee on Scientific Approaches to Eyewitness Identification, which produced the 2014 report *Identifying the Culprit: Assessing Eyewitness Identification*. Dr. Albright was a member of the National Commission on Forensic Science and has been critical of the Attorney General's decision not to recharter the group.

Susan Ballou, Program Manager for the Forensic Sciences Research Program, NIST

Previous:	American Academy of Forensic Sciences Scientific Working Group on Digital Evidence
Education:	Johns Hopkins University, M.S. (Biotechnology) University of New Haven, B.S. (Criminal Justice)

Biography

Susan Ballou is the program manager for Forensic Science at the National Institute of Standards and Technology (NIST). Since 2000, she has managed this program, which targets the needs of the forensic science practitioner by identifying and funding research at NIST in such areas as latent print analysis, burn patterns, computer forensics, and material standards. She oversees the $20 million grant to Center for Statistics and Applications in Forensic Evidence (CSAFE). Her forensic crime laboratory experience spans over 27 years and includes working on case samples in the areas of toxicology, illicit drugs, serology, hairs, fibers, and DNA. She is the president-elect of the American Academy of Forensic Science (AAFS). Department staff work with Ballou on a variety of forensics topics.

Relevant Publications

Shannan R. Williams et al., *Biological Evidence Preservation: Considerations for Policy Makers*, NIST Interagency Report (Apr 14, 2015), http://nvlpubs.nist.gov/nistpubs/ir/2015/NIST.IR.8048.pdf.

- Analyzes and surveys current trends, scientific literature to discuss the state of the law in different States relating to biological evidence preservation and offers recommendations for states to implement to improve preservation of evidence. Among other things, the paper recommends that policymakers provide an explicit and specific definition of biological evidence; each state establish automatic timetables for the retention of evidence; each state establish best practices for storing biological evidence; and the establishment of statewide commissions for enforcing standards.

Judge Alex Kozinski, United States Circuit Judge for the Ninth Circuit

Previous: Special Counsel, U.S. Merit Systems Protection Board
Assistant Counsel, Office of Counsel to the President

Education: UCLA School of Law, J.D.
UCLA, B.A. (Economics)

Biography

Judge Kozinski has served on the Ninth Circuit since 1985. He has written several articles critical of forensic science and the Department's reliance on forensic science. He was a senior advisor to the PCAST report.

Relevant Publications

Alex Kozinski, Op-Ed., *Rejecting Voodoo Science in the Courtroom*, Wall St. J., Sept. 19, 2016). https://www.wsj.com/articles/rejecting-voodoo-science-in-the-courtroom-1474328199

- PCAST reports that only the most basic form of DNA analysis is scientifically reliable. Forensic evidence has plagued the justice system for years. PCAST recommendations for developing standards for validating forensic methods should be quickly implemented. Additionally, Congress should amend the legislation to authorize swift federal relief to prisoners who make a convincing showing that they were convicted with false or overstated expert testimony.

Alex Kozinski, *Criminal Law 2.0*, 44 Geo. L.J. Ann. Rev. Crim. Proc. (2015).

- Multiple critiques of the justice system, including "myths" that fingerprint evidence is foolproof, DNA evidence is accurate, and other types of forensic evidence are dependable in court.
- Gives numerous recommendations for criminal justice overhaul. Evidence/Forensics recommendations include:
    1. Allow jurors to take notes/ask questions during trial
    2. Adopt uniform procedures for certifying expert witnesses
    3. Condition the admission of expert evidence in criminal cases on the presentation of a proper Daubert showing.

Alex Kozinski, *Criminal Law 2.0*, 44 Geo. L.J. Ann. Rev. Crim. Proc. (2015).

Judge Kozinski begins by critiquing assumptions about the reliability of the criminal justice system. Many of the tropes he addresses relate to forensic science. For example, he mentions the "myths" that fingerprint evidence is foolproof, DNA and other types of forensic evidence are always correctly analyzed and therefore juries can rely heavily on them, and that human memory is reliable. Kozinski also highlights problems that arise when defendants attempt to obtain new evidence post-conviction or have independent testing done on evidence collected by the police (police often destroy or release evidence that will not be used at trial, failure to uniformly collect DNA samples).

Next, Judge Kozinski offers suggestions for remedying some of the systemic issues created by the assumptions he highlighted in the first portion of the article. He breaks his suggestions down into three categories: juries, prosecutors, judges, and miscellaneous. For juries, Kozinksi suggests that:

- jurors be given a copy of the jury instructions;
- that they be allowed to ask questions while the trial is ongoing;
- that they are told at the beginning of the trial what the likely punishment will be if the defendant is convicted;
- and that they provide sentencing input.

To check prosecutorial abuse, Kozinski recommends:

- open file discovery;
- standardized procedures for disclosure obligations;
- limits on the use of jailhouse informants;
- video-recordings of all suspect interrogations;
- prosecutorial integrity units and conviction integrity units; and
- **uniform, rigorous procedures for certifying expert witnesses.**

In the section addressing certification of expert witnesses, Kozinski approvingly cites the establishment of the National Commission on Forensic Science ("NCFS") by the Department of Justice. For judges, Kozinksi recommends:

- entering *Brady* compliance orders in every criminal case and engaging in a *Brady* colloquy during pretrial hearings;
- adopting local rules that require the government to comply with discovery obligations without the need for motions by the defense;
- publicizing prosecutorial misbehavior; and
- **conditioning admission of expert evidence in criminal cases on the presentation of a proper *Daubert* showing**.

Regarding expert witnesses, Kozinski calls for courts to grant *Daubert* hearings more often. Kozinski points out that the number of wrongful convictions based on unreliable expert evidence is very high, but defendants are often reluctant to challenge expert testimony because judges rarely grant *Daubert* hearings and appellate courts review expert testimony under an abuse of discretion standard. Kozinski also states that failure to hold a *Daubert* hearing where expert

evidence has credibly been challenged should be considered an error of law. In the miscellaneous category, Kozinski recommends:

- abandoning judicial elections;
- abrogating absolute prosecutorial immunity;
- repealing § 2254(d) of the Antiterrorism and Effective Death Penalty Act;
- treating prosecutorial misconduct as a civil rights violation;
- giving criminal defendants the choice of a jury or bench trial;
- conducting in depth studies of exonerations; and
- repealing three felonies a day for three years.

Judge Jed S. Rakoff, United States District Judge for the Southern District of New York
Adjunct Professor, Columbia Law School

Previous: Partner, Fried Frank
AUSA, Southern District of New York

Education: Harvard Law School, J.D.
Oxford University, MPhil
Swarthmore College, B.A. (English)

Biography
Judge Rakoff has served on the Southern District of New York since 1996. He has written several articles critical of forensic science and the Department's reliance on forensic science. He was a senior advisor to the PCAST report. He particularly believes that fingerprint analysis and fire investigation are susceptible to cognitive bias and potential errors. Judge Rakoff served on the National Commission on Forensic Science and was the primary driver in an NCFS recommendation to expand criminal discovery arguing that the current rules do not permit a defendant sufficient access to forensic reports. The Department responded to that recommendation in January 2017 when it amended the *Ogden Memorandum* by issuing supplemental guidance for cases with forensic evidence.

Relevant Publications
Rush D. Holt & Jed S. Rakoff, Op-Ed., *The Justice Department is squandering progress in forensic science*, Wash. Post, July 2, 2017, https://www.washingtonpost.com/opinions/the-justice-department-is-squandering-progress-in-forensic-science/2017/07/02/9f6301ba-5cd8-11e7-9b7d-14576dc0f39d_story.html?utm_term=.6d1e0286d21d.

- Forensic techniques, including hair- and footprint-matching, mark analysis, bloodstain-pattern analysis, lack scientific validity and reliability yet are used frequently in courtrooms. Some progress has been made following the 2009 NAS report; however the Justice Department's decision not to renew the NCFS has stopped and may even reverse that progress.

Jed S. Rakoff, *Why Innocent People Plead Guilty*, N.Y. Review of Books (Nov. 20, 2014). http://www.nybooks.com/articles/2014/11/20/why-innocent-people-plead-guilty/

- Prosecutors often have more resources than defendants, including forensic evidence reports which gives the prosecutor a huge advantage over defense counsel, and also makes the prosecutor confident about the strength of his or her case. According to the NAS, much of this evidence is one-sided and inaccurate; however, it still gives prosecutors an advantage and results in more plea bargains.

Joel Cohen, *Do judges contribute to injustices? A conversation with Judge Jed Rakoff*, ABA Journal (April 13, 2017).
http://www.abajournal.com/news/article/judge_jed_rakoff_joel_cohen_broken_scales

- Argues that judges do not challenge forensic evidence often enough in court. A judge should educate himself on the scientific background of forensic methods and critically analyze the evidence that is presented in court.

Rush D. Holt & Jed S. Rakoff, Op-Ed., *The Justice Department is squandering progress in forensic science*, Wash. Post, July 2, 2017, http://www.washingtonpost.com/opinions/the-justice-department-is-squandering-progress-in-forensic-science/2017/07/02/9f6301ba-5cd8-11e7-9b7d-14576dc0f39d_story.html?utm_term=.6d1e0286d21d.

Holt and Rakoff note that forensic analysis is frequently used in obtaining convictions, and unreliable forensic evidence has played a prominent role in wrongful convictions. A 2009 report by the National Academy of Sciences has inspired many important reforms in forensic science. However, the dissolution of the National Commission on Forensic Science (NCFS), threatens to stall and reverse progress. Holt and Rakoff assert that the Justice Department should not oversee development of new forensic standards because it has a conflict of interest as an entity responsible for prosecuting federal crimes.

Ronald J. Allen, John Henry Wigmore Professor of Law, Northwestern University

Previous: Professor of Law, Duke University
Professor of Law, University of Iowa
Assistant Professor of Law, State University of New York at Buffalo

Education: University of Michigan, J.D.
Marshall University, B.S. (Mathematics)

Biography

Professor Allen is an internationally recognized expert in the fields of evidence, criminal procedure, and constitutional law. He has not previously engaged particularly on forensics but has written about the FRE and expert testimony.

Relevant Publications

Ronald J. Allen, *The Hearsay Rule as a Rule of Admissions Revisited*, 84 Fordham L. Rev. 1395 (2016).

- Article in response to *United States v. Boyce,* 742 F.3d 792 (7th Cir. 2014), and the Advisory Committee on FRE's subsequent conference on the hearsay rule. First, the Committee should focus exclusively on the hearsay rule and ignore the Confrontation Clause problem. Second, the Committee should keep in mind the critical distinction between civil and criminal litigation. Suggests moving forward by continuing expanding the largely unreviewable admission of hearsay either by expanding exceptions or moving toward the total elimination of the hearsay rule, leaving FRE 403 to govern.

Ronald J. Allen, *The Conceptual Challenge of Expert Evidence*, Northwestern Law & Econ Research Paper No. 12-15 (2012).

- The article examines how expert testimony is used during trials. The factfinder is expected to comprehend and process the evidence, so factual accuracy is fundamentally important. Expert witnesses are often given deference by the factfinder. Instead, the solution should be that witnesses present in an educational manner so that the factfinder is fully informed of the circumstances and can weigh the evidence, essentially getting rid of the "expert" category. In regards to forensics, Allen suggests that making forensic witnesses fully explain their testimony will largely eliminate the "junk science" problem.

Ronald J. Allen & Larry Laudan, *The Devastating Impact of Prior Crimes Evidence – And Other Myths of the Criminal Justice Process Evidence*, Northwestern Public Law Research Paper No. 10-74 (2010).

- Article discusses the role FRE 403, 404, and 609 have in admitting prior crimes into evidence at trial. Allen argues that all prior convictions should be admitted in trial. This gives jurors a fully informed perspective and keeps the jury from speculating about previous crimes.

Ronald J. Allen & Larry Laudan, *The Devastating Impact of Prior Crimes Evidence – and Other Myths of the Criminal Justice Process*, Northwestern Public Law Research Paper No. 10-74 (2010).

Allen argues that all prior convictions should be admitted as evidence at trial. The basis for this argument is that none of the reasons that prior convictions are excluded have been supported by testing. The main reason that Allen examines is the supposed negative inference about the defendant that a jury will draw if it is aware of the defendant's prior convictions. Allen cites numerous statistical studies indicating that the rates of conviction with and without admission of priors are close to identical. Instead, Allen argues that if a defendant chooses not to testify, her priors should be admitted anyway because keeping them out will make little difference in the outcome of her trial. Allen asserts that admitting priors would give jurors a fully informed perspective and keep them from speculating about previous criminal actions.

Ronald J. Allen, *The Hearsay Rule as a Rule of Admissions Revisited*, 84 Fordham L. Rev. 1395 (2016).

Allen wrote this article in response to Judge Posner's remarks on the hearsay rule in his concurrence in *United States v. Boyce* and the Advisory Committee Conference on the hearsay rule. He makes three suggestions to the Advisory Committee. First, it should focus solely on hearsay rather than the Confrontation Clause issue. Second, the Advisory Committee should distinguish between civil and criminal litigation. Third, Allen recommends that the Advisory Committee should expand the amount of hearsay it allows into trial by either broadening the scope of exceptions or fully eliminating the hearsay rule and letting FRE 403 govern evidence admissibility. In support of his third proposition, Allen cites research that juries navigate hearsay evidence quite well on their own.

David H. Kaye, Distinguished Professor and Weiss Family Scholar, Penn State Law

Previous: Professor, Arizona State University School of Life Sciences and School of Law
Visiting Professor at numerous law schools including Cornell, Duke, and UVA

Education: Yale Law School, J.D.
Harvard University, M.A. (Astronomy)
MIT, B.S. (Physics)

Biography

Professor Kaye's research and teaching focuses on the law of evidence and applications of forensic science, genetics, probability, and statistics in civil and criminal litigation. Before teaching, he was an associate in a private law firm in Portland, Oregon, an assistant special prosecutor on the Watergate Special Prosecution Force, and a law clerk to Hon. Alfred T. Goodwin, formerly Chief Judge of the U.S. Court of Appeals for the Ninth Circuit. Professor Kaye believes the PCAST report contains serious statistical misstatements and proposes a standard that is not well-suited to serve as legal standard for admissibility but does support additional scrutiny for forensic evidence.

Relevant Publications

Geoffrey Stewart Morrison, *et al.*, *A Comment on the PCAST Report: Skip the 'Match'/'Non-Match' Stage*, Forensic Science International (2016).
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2860440

- The PCAST report advocates a two-stage procedure for evaluation of forensic evidence. The first stage is a "match"/"non-match" determination, and the second stage is an empirical assessment of sensitivity and false alarm rates. The comment explains why a two-stage procedure is not appropriate for this type of data, and recommends more appropriate statistical procedures.

David H. Kaye, *Ultracrepidarianism in Forensic Science: The Hair Evidence Debacle*, Penn State Law Research Paper No. 7-2015 (2015).

- Following the Innocence Project/FBI study of microscopic hair comparisons concluding examiners "exceeded the limits of science" in over 90% of their reports, the article questions the validity of the 90% figure. The study's conclusions and review process should be made more transparent and the materials it produces should be readily available for researchers and the public to study.

David H. Kaye, *et al.*, Communicating the Results of Forensic Science Examinations, Penn State Law Research Paper No. 22-2015 (2015).

- A successful transition from an opinion-based system to one in which measurements are more quantitative and opinions are supported by statistical analyses requires investigating the nature of forensic inference processes and the findings of cognitive psychology on

how to best convey scientific information to decision makers. Recommendations include what information should be included in a likelihood ratios and how to clearly present forensic conclusion (specific recommendations begin at p. 42).

Jennifer Mnookin & David H. Kaye, *Confronting Science: Expert Evidence and the Confrontation Clause*, 2012 Sup. Ct. Rev. 99 (2013).

- Following *Williams v Illinois*, 132 S. Ct. 2221 (2012), the Supreme Court substantially changed its understanding of how the Confrontation Clause applies to hearsay evidence. The article suggests that the ongoing anxiety about how to think about expert evidence and the Confrontation Clause exists because there is significant uncertainty about how, and to what extent, scientific evidence should be treated as special or distinct from other kinds of evidence for confrontation purposes. Courts should consider modest scientific exceptionalism within Confrontation Clause given that scientific expert evidence is often built upon data and test results of others, not just the individual expert.

Jennifer Mnookin, et al., *The Need for a Research Culture in the Forensic Sciences*, The Pennsylvania State University Legal Studies Research Paper No. 5-2011 (2011).

- The article, written by a number of professors and forensic scientists including David Kaye and Jay Koehler, argues that traditional forensic sciences do not currently possess a well-established scientific foundation. These must be validated through research that is grounded in the values of empiricism, transparency, and a commitment to an ongoing critical perspective.

David H. Kaye, *The Double Helix and the Law of Evidence* (2010).

- Book discusses molecular biology, population genetics, the legal rules of evidence, and theories of statistical reasoning to describe the struggle over the admissibility of genetic proof of identity. Demonstrates how the adversary system exacerbated divisions among scientists, how lawyers and experts complicated some issues and clarified others, how probability and statistics were manipulated and misunderstood. Kaye uses probability theory to clarify legal concepts of relevance and probative value.

David H. Kaye, *Probability, Individualization, and Uniqueness in Forensic Science Evidence: Listening to the Academies*, 75 Brook. L. Rev. 1163 (2010).

- Following the 2009 NAS Report, this article outlines possible types of testimony that might harmonize the testimony of criminalists with the actual state of forensic science by critical analysis of proposals by Michael Saks and Jay Koehler. The article argues that there is no rule of probability or logic that prevents individualization and that testimony of uniqueness or individualization is scientifically acceptable in some situations.

David H. Kaye, *Identification, Individualization, Uniqueness*, 8 L. Probability & Risk 85 (2009)

- Forensic scientists concerned with the identification of trace evidence have distinguished between identification and individualization, but they have not distinguished as precisely between individualization and uniqueness. This paper clarifies these terms and discusses the relationships among identification, individualization, and uniqueness in forensic-science evidence.

Kaye is currently writing a book titled *DNA Identification and the Threat to Civil Liberties.*

Jennifer Mnookin & David H. Kaye, *Confronting Science: Expert Evidence and the Confrontation Clause*, 2012 Sup. Ct. Rev. 99 (2013)

Mnookin & Kaye discuss *Crawford v. Washington* and the confusion it has created over how its doctrinal framework applies to expert evidence. *Crawford* and its progeny reveal uncertainty over how and to what extent scientific evidence should be treated as special or distinct from other kinds of evidence. Mnookin & Kaye suggest that scientific and expert evidence should potentially merit limited special treatment because it is a collective rather than an individual enterprise. The scientific process depends on the work of other collaborators-scientists build on the results and studies of their colleagues. Knowledge that is produced is not held by one person, but distributed across a network. This creates tensions with the current Confrontation Clause framework. For example, if a forensic pathologist relies on the deceased's medical records when ascertaining a cause of death, the medical records are a part of the basis for his opinion and testimony but they themselves are not testimonial. If courts recognize these characteristics of science, they can create procedures that respect the values of the Confrontation Clause and adapt to scientific structures and processes.

Jonathan "Jay" Koehler, Beatrice Kuhn Professor of Law, Northwestern School of Law

Previous: Professor, Arizona State University (business and law schools;
University Distinguished Teaching
Professor at University of Texas at Austin (business)

Education: University of Chicago, Ph.D. (Behavioral Sciences)
University of Chicago, M.A. (Behavioral Sciences)
Pomona College, B.A. (Philosophy)

Biography

Dr. Koehler's areas of interest include behavioral decision theory, quantitative reasoning in the courtroom, forensic science, and behavioral finance. He does not believe forensic disciplines have been shown to valid or reliable and has written extensively about this. He has done research in several areas to assess how jurors assess expert testimony and has found that they misunderstand the error rate of different disciplines and make decisions on variety of factors unrelated to the evidence.

Relevant Publications:

Jonathan J. Koehler & John B. Meixner Jr., *An Empirical Research Agenda for the Forensic Sciences*, 106 J. Crim. L. & Criminology 1, 22-23 (2016).

- Argues the *Daubert* factors/FRE 702 require more reliable forensic practices. No specific mention of FRE edits, however the section dealing with evidence argues that forensic expert testimony should be limited to identifying similarities vs. dissimilarities. Forensic experts should not testify to the source because identifying the source requires forensic and non-forensic evidence, which may cause bias.

Jonathan J. Koehler, et al., *Science, Technology, or the Expert Witness: What Influences Jurors' Judgments About Forensic Science Testimony?*, 22 Psychology, Public Policy, and Law 401 (2016).

- Findings from study indicate that jurors use the background and experience of an expert to evaluate of the evidence the expert provides, whether the forensic science method had been scientifically tested had a limited and inconsistent effect on jurors, and the sophistication of the forensic technology had no effect on jurors.

Jonathan J. Koehler, *Forensics or Fauxrensics? Ascertaining Accuracy in the Forensic Sciences*, (August 1, 2016).

- No clarity from courts on what to look for under 702 to determine known or potential error rate of a forensic method. FRE 702 and *Daubert* factors are not enough because error rate is the single most important component of a reliability assessment. Forensic scientists must fix the problem by implementing proficiency testing designed to measure error rates under appropriate test conditions in the various forensic subfields. Until such studies are undertaken, legal decision makers will continue to err when it comes to assessing the reliability of forensics.

Jonathan J. Koehler, *Linguistic Confusion in Court*, 21 J.L. & Pol'y 515 (2013).

- When presenting forensic evidence in court, specific language used by experts determines if the testimony is helpful or if testimony is confusing. Forensic practices should set up clear and unambiguous standards for examining materials, documenting findings, and reporting those findings in court. Should establish a professional body that promotes these goals but also certifies experts. The forensic linguistics community should also support a rigorous proficiency-testing program, using realistic evidentiary items, for all techniques and experts.

Jonathan J. Koehler & John Meixner, *Decision Making and the Law: Truth Barriers*, Northwestern Law & Econ Research Paper No. 13-04 (2013).

- Certain legal procedures and FREs threaten the ability to achieve accurate legal decisions by restricting access to evidence, or limiting evidence considered on appeal. Need safeguards against statistical errors and misinterpretations in cases involving DNA evidence, and cognitive biases. One solution to the problem of false confessions is to disallow any form of coerced confession at trial. A less drastic solution would be to require that all interrogations be videotaped and to permit judges and juries to review those tapes

Michael J. Saks & Jonathan J. Koehler, *The Individualization Fallacy in Forensic Science Evidence*, 61 Vand. L. Rev. 199 (2008).

- Forensic scientists are not able to link forensic evidence to its unique source, though they assert such ability in court. There is no basis for the contention that every distinct object leaves its own unique set of markers that can be identified by a skilled forensic scientist. This testimony should be excluded under FRE 702. The legal community should understand shortcomings of individualization and encourage reforms ground testimony in valid science and place limits on what expert witnesses may assert.

Jonathan J. Koehler & John B. Meixner, Jr., *An Empirical Research Agenda for the Forensic Sciences,* 106 J. Crim. L. & Criminology 1 (2016).

Professor Koehler's paper proposes a series of scientific studies that would provide guidance to legal decision makers about the reliability and validity of forensic science conclusions. The aim of these studies is to help readers understand what forensic methods can and cannot achieve and better understand how to evaluate the strength of forensic evidence as promoted by unbiased, empirical data. The studies are designed to provide knowledge and clarity rather than improvement in the forensic sciences.

The studies can be grouped into several categories. The first category measures *what* forensic examiners are doing. Koehler suggests these studies seek to answer the following questions:

- What do examiners generally look for in making a comparison?
- How much variability is there in examiner methods?
- Do the most effective examiners employ unique methods?

The second group of studies Koehler proposes measure *how well* forensic examiners are performing their analyses. He suggests studies to answer the following questions:

- Does the difficulty of the sample affect accuracy?
- Can examiners' decision thresholds be shifted (toward consistency)?
- Does examiner confidence correlate with accuracy?
- Does the use of a computer database affect match report accuracy?
- How many points of similarity should examiners use?

The third group of proposed studies examines how contextual information can affect a forensic examiner's judgment, and seeks answers to the following questions:

- Does biasing information interact with the questions examiners are asked to answer?
- Does the presence of multiple samples or the order in which the samples are examined bias conclusions?
- Are examiners affected by knowledge of a forthcoming review?
- Can examiners be debiased?

The fourth and final group of proposed studies examine the output of forensic data, or the way forensic data is delivered to the legal system. Koehler proposes answering the following questions:

- How do forensic examiners actually testify in court?
- How should forensic examiners present evidence in court?

Jonathan J. Koehler & John Meixner, *Decision Making and the Law: Truth Barriers*, Northwestern Law & Econ. Research Paper No. 13-04 (2013).

Koehler's article argues that seeking the truth is an essential function of the legal system, but several factors interfere with trials actually reaching the truth. These factors include the structural features of a trial, "innumeracy" (lack of understanding of statistics and probability) in trial participants, and cognitive biases.

- Structural features of trials:
  - Social Policy Objectives: The Federal Rules of Evidence ("FRE") exist largely to further social policies rather than to allow information that is most likely to help a jury arrive at the truth. For example, Rules 407-409 prohibit admission of evidence related to steps defendants in tort actions took to remedy conditions that caused the issued, even though this might indicate to the jury that the defendant thought it had done something wrong. The Fourth Amendment, Sixth Amendment, and high burden of proof in criminal trials also compound this problem.
  - Courtroom Procedures: Some issues include withholding evidence because courts and legal rule-makers fear that juries will give it improper weight and the unwillingness of appellate courts to reconsider evidence or hear new evidence.
- Innumeracy of Legal Participants: jurors, prosecutors, and scientific and expert witnesses often have a poor grasp of elementary statistical concepts and thus misstate the meaning of evidence. Common errors include transposition errors, source probability errors, and prosecutor's fallacies. Additionally, little understanding or appreciation is given to laboratory error rates.
- Cognitive Biases
  - Confirmation Bias: Confirmation bias affects how the police investigate for a crime and who they target as a suspect. It also affects the questions judges and attorneys ask jurors in the voir dire process. For example, attorneys who believe blacks are more skeptical of the police than other racist groups tend to ask black jurors about negative experiences with the police more often, and this can lead to disproportionate exclusion of black jurors. Finally, confirmation bias also affects the way jurors process information. If they develop a theory very quickly in the case, they will view all the subsequent presented evidence in light of that theory rather than objectively.
  - Hindsight: Particularly relevant in civil trials where foreseeability is a central issue. Also affects determinations of whether or not a judge should have granted a search warrant. Fraud litigation is an area of the law that seeks to counteract hindsight with the fraud by hindsight doctrine, but this doctrine is still discretionary and judges do not apply it uniformly.
  - Memory Biases: Human memory is reconstructive rather than reproductive. This means humans recreate memories when they are asked to recall them, and this can lead to criminal defendants falsely confessing or other witnesses revising their memories of what they think they saw. Solutions include

disallowing coercive questioning at trial and requiring all interrogations to be videotaped and allowing judges and juries to review those videotapes.

- Framing: How evidence is framed and presented can have a powerful effect on how the jury perceives it. This is especially true for statistical DNA evidence. Prosecutors often have a "first mover" advantage because they get to frame the evidence.
- Anchoring & Adjustment: Attorneys often seek to gain a strategic advantage by anchoring the legal decision maker to quantitative values that favor its side. The body of research on how persuasive attorney anchoring is to juries is still developing.

Jane Campbell Moriarty, Professor of Law, Duquesne University School of Law

Previous: Professor of Law, University of Akron School of Law

Education: Boston College Law School, J.D.
Boston College, B.A. (Philosophy)

Biography

Professor Moriarty's work focuses on scientific evidence, neuroscience and law, and professional responsibility. In the last few years, much of her work has involved the burgeoning field of neuroscience and law. She is the author and co-author of peer reviewed articles on neuroscience and law and a chapter on neuroscience lie detection. She is currently working on a book on lie detection and neuroscience. She has written some criticism of forensic science in the past but it is not her particular area of expertise.

Relevant Publications

Daniel D. Langleben & Jane Campbell Moriarty, *Using Brain Imaging for Lie Detection: Where Science, Law, and Policy Collide*, 19 Psychol. Pub. Pol'y & L. 222 (2013)

- The article discusses the current uses and limitations of using fMRI as evidence in court. *Daubert's* "known error rate" is the key concept linking the legal and scientific standards. The article concludes that to continue using this method in court, there must be a public funding initiative for a peer-reviewed research program to determine the error rates of the technique.

Jane Campbell Moriarty, *"Will History Be Servitude?" The NAS Report on Forensic Science and the Role of the Judiciary*, 2010 Utah L. Rev. 299 (2010).

- Following the 2009 NAS Report, the article argues that the judiciary, which has created a standard of reliability, has failed to hold prosecutorial expert evidence to that standard. Recommendations include:
    1. Judges use the language of the NAS Report when writing opinions and address: 1) measurement of object attributes; 2) data on population frequency of variation in the attributes; 3) evidence of attribute independence; and 4) calculation of the probability that different objects share a common set of attributes.
    2. Allow experts to testify about points of comparison, but not give a conclusion to the jury.

Jane Campbell Moriarty, *Visions of Deception: Neuroimaging and the Search for Evidential Truth*, 42 Akron L. Rev. 739 (2009).

- The article argues that neuroimages of deception are far from courtroom-ready, especially in light of the 2009 NAS report findings. Polygraph evidence has multiple causation problems, primarily that it conflates correlation with causation. Courts, which are often ineffective at keeping out faulty forensic science, should be extremely hesitant before admitting this type of evidence.

Jane Campbell Moriarty, *"Misconvictions," Science and The Ministers of Justice*, 86 Neb. L. Rev. 1 (2007).

- FRE 702/*Daubert* rules present difficulties in determining when evidence is admissible. Proposes the following solutions for judges as "gatekeepers" of the evidence:
    1. Limit the admissibility of the evidence, even when not excluding it
    2. Limit testimony and phrasing that is either overpowering to a jury or misleading
    3. Allow defendants to hire experts and allow those defense experts to testify and present contrary evidence.
    4. Courts should be willing to take up the suggestion posed by Federal Rule of Evidence 706 and the Supreme Court to "procure the assistance of an expert of its own choosing."

Jane Campbell Moriarty, *"Will History Be Servitude?" The NAS Report on Forensic Science and the Role of the Judiciary*, 2010 Utah L. Rev. 299 (2010).

Moriarty discusses the NAS Report and its condemnation of "individualization evidence," which Moriarty defines as "fingerprints, hair, handwriting, toolmarks, shoeprints and tire tracks, and forensic odontology." Individualization conclusions testify that the evidence originated from a source, to the exclusion of all possible sources. Judges often admit individualization evidence for a variety of reasons, and there is little scientific and statistical evidence to support the accuracy of individualization evidence and individualization conclusions. Moriarty criticizes the judiciary, which serves as the gatekeeper for evidence, and claims that many of the reasons judges continue to admit individualization evidence boil down to "it's always been done this way." Moriarty claims that a long history of a practice is no reason to follow it, drawing analogies to the medical practice of bloodletting during illness, witchcraft trials, and asking the Oracle of Delphi for advice. To remedy this problem, Moriarty recommends:

1. Judges use the language of the NAS Report when writing opinions;
2. Addressing the following:
    a. Measurement of object attributes
    b. Data on population frequency of variation in the attributes
    c. Evidence of attribute independence
    d. Calculation of the statistical probability that different objects could share common attributes
3. Allowing experts to testify about points of comparison, but not to give a conclusion to the jury.

Erin E. Murphy, Professor of Law, NYU School of Law

Previous: Assistant Professor, UC Berkeley School of Law
Visiting Assistant Professor, Harvard Law School

Education: Harvard Law School, JD
Dartmouth College, BA (Comparative Literature)

Biography

Erin Murphy's research focuses on technology and forensic evidence in the criminal justice system. She is a nationally recognized expert in forensic DNA typing, her latest book, Inside the Cell: The Dark Side of Forensic DNA, was released in October 2015. Murphy is co-editor of the Modern Scientific Evidence treatise. She has written extensively in the popular press and media and will be able to frame her criticism of forensic science effectively. One of her key points is that indigent defense is overburdened and not capable of understanding forensic evidence and effectively cross-examining a forensic expert.

Relevant Publications

Erin Murphy, *No Room for Error: Clear-Eyed Justice in Forensic Science Oversight*, 130 Harv. L. Rev. F. 145 (2017).

- The Memorandum by the Legal Resource Committee of OSAC argues less demanding error thresholds in forensic testing is correct as a matter of law, but represents the inherent difficulty of forensic reform. The memo sets no threshold for statistical significance, which will almost always hurt the criminal defendant. The memo could have addressed the issue in context, including use of forensics by every day criminal justice actors, discussing precautions to cognitive bias, and demand analysts adhere to NCFS reporting recommendations. Instead, it answers the question in isolation and the misuse of forensic evidence will continue.

Erin E. Murphy, Op-Ed., *Sessions is Wrong to Take Science Out of Forensic Science*, N.Y. Times, April 11, 2017, https://www.nytimes.com/2017/04/11/opinion/sessions-is-wrong-to-take-science-out-of-forensic-science.html

- Disbanding the NCFS brings forensic progress to a halt. The NCFS worked to develop certification standards and reporting requirements, leading to great accuracy and transparency. With forensics now under control of the Justice Department and not scientists, this progress will suffer.

Michael J. Saks, et al., *Forensic Bitemark Identification: Weak Foundations, Exaggerated Claims*, 3 J. Law & Biosci. 538 (2016).

- The issues with bitemark identification demonstrates the miscarriages of justice that can result when judges uncritically admit unvalidated expert accept into evidence. This is applicable to many forensic fields and the history of bitemark evidence suggests that: (i) the scientific community must more carefully engage with the research foundations of forensics; (ii) lawyers must aggressively brief challenges to foundations of forensic techniques; and (iii) judges must be more willing to carefully examine forensic evidence before admitting it.

Erin E. Murphy, *The Mismatch Between Twenty-First-Century Forensic Evidence and our Antiquated Criminal Justice System*, 87 S. Cal. L. Rev. 633 (2014).

- Discusses the shortcomings of forensic evidence in the criminal justice system. Specific recommendations:
  1. Criminal discovery process that mimics the civil procedure, allowing for extensive pretrial disclosures and depositions
  2. Greater funding and specialized training for expert assistance, but also the development of dedicated, roving second generation evidence defense advisors.
  3. Confrontation Clause – rules should focus on assuring the existence of structural quality control mechanisms by adopting new rules that empower lawyers to obtain reliability hearings that address execution, not just methodology, and by amplifying the right to discovery to include things such as an analyst's historical error reports, proficiency test results, and other performance evaluations
  4. Presentation of evidence – modest shifts including standardizing language, allowing jurors to ask questions and take notes, and permitting judges to override the conventional models of direct/open question and cross-examination/leading question, and allow greater narrative flexibility
  5. Foundational legal standards for sufficiency of evidence, appellate adjudication, and postconviction review need should be reevaluated given the special probative value of second generation forensic methods.

Erin E. Murphy, *Inferences, Arguments, and Second Generation Forensic Evidence*, 59 Hastings L.J. 1047 (2008).

- Courts must safeguard the defense's access to evidence; to permit appropriation, missing evidence, or concession of guilt arguments by the government prejudicially and unjustifiably ignores the lopsidedness of the field of forensic evidence. Resources required to thoroughly appraise second generation evidence are particularly available to the government, and in turn are difficult for the defense to attain. Second generation sciences are still subject to bias and error, and should not be used to bend the rules of evidence to infringe on Fifth and Sixth Amendment rights.

Erin E. Murphy, *The New Forensics: Criminal Justice, False Certainty, and the Second Generation of Scientific Evidence*, 95 Cal. L. Rev. 721 (2007).

- Legal standards address admissibility, but do not sufficiently address how standards should operate in practice. In the age of powerful new forensic technologies, the criminal justice system must adjust how it accommodates scientific evidence. Makes several recommendations, including:
  1. Greater centralization of defense functions
  2. Defense entitlement to equal access to relevant databases
  3. A legal, affirmative duty on the government to disclose any departures from protocol that government analysts undertake in reaching the results at issue in the case.
  4. Courts should consider whether the laboratory generally operates at a sufficient level of competence first as a legal and then as a factual question before admitting evidence.

Erin E. Murphy, Op-Ed., *Sessions is Wrong to Take Science out of Forensic Science*, N.Y. Times, April 11, 2017, https://www.nytimes.com/2017/04/11/opinion/sessions-is-wrong-to-take-science-out-of-forensic-science.html.

Murphy decries Attorney General Sessions' decision to allow the NFSC to be disbanded at the end of its term. Murphy asserts that the NFSC was making great strides in improving the quality of forensic analysis and bringing transparency and accuracy to forensic science through its development of certification standards and reporting requirements. Murphy believes that progress towards greater transparency and accuracy will suffer now that forensics are "controlled" by the Justice Department rather than an independent commission. Murphy is concerned that lawyers and judges, rather than scientific experts, will be making important determinations about best practices and the quality of forensic evidence.

Erin E. Murphy, *The Mismatch Between Twenty-First Century Forensic Evidence and Our Antiquated Criminal Justice System*, 87 S. Cal. L. Rev. 633 (2014).

The first part of Murphy's article describes "high-tech forensic evidence" and describes how it is different from conventional forms of evidence (e.g. eyewitness testimony, confessions, physical evidence). Murphy refers to high-tech evidence as "second-generation," or "2G" evidence. 2G evidence is database dependent, is often developed fully or in part with private sector aid, and it is technologically and mechanically sophisticated. As examples of 2G evidence, Murphy lists GPS and cell phone data.

The second part of Murphy's article describes each of the seven phases of the adjudicatory process and explains why the rules governing each stage are inadequate for accommodating high-tech evidence.

1. Evidence Collection and Preservation: as a result of Youngblood, there is no standard of evidence collection imposed on the government. This is a special problem with 2G evidence because most of it is only available for a certain amount of time. For example, security video footage plays on a loop that automatically erases after a certain amount of time. There should be a standard of evidence collection the police/government have to meet and there should be specially trained crime scene investigators whose sole responsibility is to collect all pertinent evidence as soon as possible. They should also be obliged to test the collected evidence in a timely manner.
2. The Rules of Discovery: disclosure of physical evidence to a defendant is triggered only upon request, and the prosecutor is the gatekeeper of the evidence, and only has to disclose what she will use at trial, not everything she has and all the tests that have been run. Defendants cannot access most 2G evidence without the government's subpoena power. The preferred approach would mimic civil discovery's extensive pretrial disclosures and depositions.

3. Assistance of Counsel and Expert Assistance: defendants currently have to petition the court to explain why an expert is needed. Defendants often do not have a clear idea of what kind of expert is needed and needs to consult with experts in an exploratory manner to find holes in the prosecution's case. Courts are unlikely to agree to fund such a use of experts. There should be roving, 2G-evidence defense advisors that are specially trained. There should also be increased funding for defense experts.
4. The Confrontation Clause: true confrontation of 2G evidence requires more than just a live cross-examination. There should be rules allowing lawyers to have hearings that address execution of expert analysis and evidence collection, methodology, including the expert's history, error reports, performance reports, and other performance evaluations.
5. Plea Bargaining: bargaining in the dark is a poor model for 2G evidence because it is more about striking an agreement among actors with predetermined efficiency goals than reaching a fair approximation of guilt. Usually 2G evidence is ignored during bargaining because it can be expensive and time-consuming to test. Lack of awareness and lack of access to evidence puts the defendant at a grave disadvantage during bargaining. Defendants should have full and early access to all evidence so they can reach a fair bargain.
6. Presentation of Evidence: Lawyers are often constrained by evidentiary and procedural rules that structure the jury experience a certain way. It can be difficult to present sophisticated technological evidence to a jury. Also, defense often has to deal with counteracting the other side's presentation since it went first, and it can be difficult to give the jury a complete picture of the evidence. Courts could counteract these problems by letting jury ask questions during the trial. Also, the Australian method of concurrent evidence would solve many issues.
7. Sufficiency of Evidence, Appellate Adjudication, and Postconviction Review: The issues that arise pretrial are often magnified in the postconviction stage because defendants often cannot afford to have evidence preserved or to gain access to preserved evidence. Also, if scientific experts did a poor job of explaining evidence, appellate courts are ill-equipped to correct factual errors.

Chris Fabricant, Director of Strategic Litigation, Innocence Project

Previous: Clinical Law Professor, Pace University School of Law
Public Defender, The Bronx Defenders

Education: George Washington University, J.D.

Biography

As the Director of Strategic Ligation, Fabricant leads the Innocence Project's Strategic Litigation Department, whose attorneys develop and execute national litigation strategies to address the leading causes of wrongful conviction, including eyewitness misidentification, the misapplication of forensic sciences and false confessions. He has over a decade of criminal defense experience at the state and federal, trial and appellate levels with The Bronx Defenders and Appellate Advocates. Fabricant has been successful in driving a media narrative that forensic science is not reliable and that it is responsible for wrongful convictions.

Relevant Publications

M. Chris Fabricant & William Tucker Carrington, *The Shifted Paradigm: Forensic Sciences's Overdue Evolution from Magic to Law*, 4 Va. J. Crim. L. 1 (2016).

- Argues that there has been a shift towards skepticism about the claims of traditional forensic sciences. The article focuses on bite-mark analysis and hair microscopy as two examples which have led to numerous wrongful convictions. Traditional forensic identification techniques are supported only by unvalidated hypotheses and unsubstantiated data. Prosecutors, defense attorneys, and forensic experts have an ethical and legal duty to revisit affected cases and provide remedies. Suggests implementing Conviction Integrity Programs to focus on reviewing cases involving unreliable scientific evidence.

M. Chris Fabricant & Karen Newirth, *Strategic Litigation at the Innocence Project: Fighting to Change the Law around the Leading Causes of Wrongful Conviction*, The Innocence Project (Apr. 17, 2014 2:41 PM), https://ncforensics.wordpress.com/2014/04/17/strategic-litigation-at-the-innocence-project-fighting-to-change-the-law-around-the-leading-causes-of-wrongful-conviction/.

- Cites two murder cases where those convicted on bite-mark evidence were later proven innocent by DNA evidence. *State v. Stinson*, 134 Wis.2d 224 (Wis. Ct. App. 1986).; *Brooks v. State*, 748 So.2d 736 (Miss. 1999). Lists hair microscopy, fiber analysis, tire tread analysis, arson, "shaken baby syndrome", and dog scent lineups as unreliable forensic disciplines. States that the misapplication of forensic science is the second leading contributor to wrongful conviction, playing a role in over 50% of the 306 wrongful convictions proved by post-conviction DNA testing.

M. Chris Fabricant & Karen Newirth, *Strategic Litigation at the Innocence Project: Fighting to Change the Law around the Leading Causes of Wrongful Conviction*, The Innocence Project (Apr. 17, 2014 2:41 PM), https://ncforensics.wordpress.com/2014/04/17/strategic-litigation-at-the-innocence-project-fighting-to-change-the-law-around-the-leading-causes-of-wrongful-conviction/.

Fabricant cites two murder cases where the defendants were convicted based on bite-mark evidence, but later exonerated by DNA evidence. Fabricant notes that unreliable forensic evidenceis the second leading contributor to wrongful convictions, and that it played a role in over 50% of the 306 wrongful convictions proved by post-conviction DNA testing. Fabricant mentions hair microscopy, fiber analysis, tire tread analysis, arson, "shaken baby syndrome," and dog scent lineups as particularly unreliable disciplines. He calls for attorneys to volunteer to litigate test cases aimed at reforming the admissibility and treatment of these forensic disciplines. He notes that the Innocence Project has employed a similar strategy with eyewitness identification evidence and played a key role in reforming the way courts treat it.

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Biography

Goldbach is the forensic services director for the Committee for Public Counsel Services (CPCS) in Boston. In that capacity, she acts as a resource on forensic issues and experts for public defenders and bar advocates across the state. Throughout her career, Goldbach has been actively involved in continuing legal education and criminal defense training programs. Goldbach has served on the board of directors of the Massachusetts Council for Public Justice and serves on the board of the Thomas J. Drinan Memorial Fellowship Fund at Suffolk University Law School. She is a past president and a member of the board of MACDL (Massachusetts Association of Criminal Defense Lawyers), and a member of NACDL.

TAB 3:
FEDERAL RULES OF EVIDENCE MATERIALS

Rule 401 – Test for Relevant Evidence

Evidence is relevant if:

(a) it has any tendency to make a fact more or less probable than it would be without the evidence; and

(b) the fact is of consequence in determining the action.

Rule 402 – General Admissibility of Relevant Evidence

Relevant evidence is admissible unless any of the following provides otherwise:

- the United States Constitution;
- a federal statute;
- these rules; or
- other rules prescribed by the Supreme Court.

Irrelevant evidence is not admissible.

Rule 403 – Excluding Relevant Evidence for Prejudice, Confusion, Waste of Time, or Other Reasons

The court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence.

Rule 702 – Testimony by Expert Witnesses

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

(a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

(b) the testimony is based on sufficient facts or data;

(c) the testimony is the product of reliable principles and methods; and

(d) the expert has reliably applied the principles and methods to the facts of the case.

Rule 703 – Bases of an Expert

An expert may base an opinion on facts or data in the case that the expert has been made aware of or personally observed. If experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject, they need not be admissible for the opinion to be admitted. But if the facts or data would otherwise be inadmissible, the proponent of the

opinion may disclose them to the jury only if their probative value in helping the jury evaluate the opinion substantially outweighs their prejudicial effect.

Rule 705 – Disclosing the Facts or Data Underlying an Expert

Unless the court orders otherwise, an expert may state an opinion — and give the reasons for it — without first testifying to the underlying facts or data. But the expert may be required to disclose those facts or data on cross-examination.

Chart Listing Exceptions to FRE Relevant in Criminal Cases

FRE	Basic Rule	Sec.	Special Criminal Rule/Exceptions	Year Adopted	Committee Notes/Reasoning
104	Preliminary Question: Court decides whether a witness is qualified, a privilege exists, or evidence is admissible.	104(c)	In criminal cases, hearing regarding PQ must be conducted outside jury	1975	**House report 93-650:** The Committee amended the Rule to provide that where an accused is a witness as to a preliminary matter, he has the right, upon his request, to be heard outside the jury's presence. Although recognizing that in some cases duplication of evidence would occur and that the procedure could be subject to abuse, the Committee believed that a proper regard for the right of an accused not to testify generally in the case dictates that he be given an option to testify out of the presence of the jury on preliminary matters. The Committee construes the second sentence of subdivision (c) as applying to civil actions and proceedings as well as to criminal cases, and on this assumption has left the sentence unamended. Generally perceived to benefit defendant.
104	Preliminary Question: Court decides whether a witness is qualified, a privilege exists, or evidence is admissible.	104(d)	Defendant does not become subject to cross by testifying on PQ	1975	**Notes**: The limitation upon cross-examination is designed to encourage participation by the accused in the determination of preliminary matters. He may testify concerning them without exposing himself to cross-examination generally. The provision is necessary because of the breadth of cross-examination under Rule 611(b). Generally perceived to benefit defendant.
201	Judicial Notice of Adjudicative Facts: The court may judicially notice a fact that is not subject to reasonable dispute	201(f)	In civil case, court instructs jury to accept the noticed fact as conclusive. In criminal case, court instructs jury that it may or may not accept noticed fact as conclusive.	1975 (adopted from 1969 Committee language)	**House Report 93-650:** Mandatory instruction to a jury in a criminal case to accept as conclusive any fact judicially noticed is inappropriate because contrary to the spirit of the Sixth Amendment right to a jury trial
404(a)	Character Evidence; Evidence of a person's character or character trait is	404(a)	In civil cases, evidence of general character traits is not admissible. In criminal	1975	**Notes:** Its basis lies more in history and experience than in logic as underlying justification can fairly be found in terms of the relative presence and absence of prejudice in

FRE	Basic Rule	Sec.	Special Criminal Rule/Exceptions	Year Adopted	Committee Notes/Reasoning
	not admissible to prove that on a particular occasion the person acted in accordance with the character or trait.		cases, the defense may introduce such evidence, although the prosecution may introduce the same type of evidence to rebut.		the various situations. In any event, the criminal rule is so deeply imbedded in our jurisprudence as to assume almost constitutional proportions and to override doubts of the basic relevancy of the evidence.
404(b)	Character Evidence; Crimes/Wrong/Bad Acts: Evidence of a crime, wrong, or other act is not admissible to prove a person's character in order to show that on a particular occasion the person acted in accordance with the character.	404(b)	Evidence may be admissible for another purpose, such as proving motive, opportunity, intent, preparation, plan, knowledge, identity, absence of mistake, or lack of accident.		
408	Compromise Offer and Negotiations: Evidence of admissions or compromises in negotiation are not admissible.	408(a)	One of the exceptions to this rule (claims by a public officer) only applies in the criminal context.	2006	**Notes:** *Changes Made After Publication and Comments*. In response to public comment, the proposed amendment was changed to provide that statements and conduct during settlement negotiations are to be admissible in subsequent criminal litigation only when made during settlement discussions of a claim brought by a government regulatory agency. Generally perceived to benefit defendant.
410	Pleas and Plea Bargains: Statements made during plea negotiations (and similar discussions) are not admissible.	410(a)	Evidence of withdrawn guilty pleas, nolo contendere and similar please are not admissible. Technically this applies to both criminal and civil cases, but in practice it is going to be mainly a criminal rule. To contrast, prior admissions of liability	1975, but predates FRE. See Kercheval v. United States (1927)	**Notes:** The Court pointed out that to admit the withdrawn plea would effectively set at naught the allowance of withdrawal and place the accused in a dilemma utterly inconsistent with the decision to award him a trial. Generally perceived to benefit defendant.

FRE	Basic Rule	Sec.	Special Criminal Rule/Exceptions	Year Adopted	Committee Notes/Reasoning
			in civil cases could be admissible.		
410	Pleas and Plea Bargains: Statements made during plea negotiations (and similar discussions) are not admissible.	410(b)	The exception to this rule is that in criminal perjury cases, defendants' statements may be used against them if counsel is present and it was under oath.	1975	Notes do not refer to this exception, it seems to just be unique to the nature of perjury.
412	Sex Offense Cases: Evidence of a victim's sexual history is generally not admissible.	412(b)	An exception exists in criminal cases so defendants may exercise their constitutional rights to confront.	1978 & 1994	**1994 Notes:** Under subdivision (b), evidence of specific instances of conduct may not be excluded if the result would be to deny a criminal defendant the protections afforded by the Constitution. For example, statements in which the victim has expressed an intent to have sex with the first person encountered on a particular occasion might not be excluded without violating the due process right of a rape defendant seeking to prove consent. Recognition of this basic principle was expressed in subdivision (b) of the original rule. The United States Supreme Court has recognized that in various circumstances a defendant may have a right to introduce evidence otherwise precluded by an evidence rule under the Confrontation Clause. Generally perceived to benefit defendant.
413	Similar Crimes in Sexual Assault Cases The defendant's history of sexual assault may be admitted and evaluated to the extent appropriate.	413(a)	The court may admit evidence of a defendant's prior history of sexual assault	1994	There are no relevant notes attached. Presumably, prior history of sexual crime may be relevant to evaluating the likelihood that the crime at issue occurred or was committed by the defendant.
414	Similar Crimes in Child Molestation Cases (See 413)	414(a)	The court may admit evidence of a defendant's prior history of child molestation	1994	See 413 (but for child molestation)

FRE	Basic Rule	Sec.	Special Criminal Rule/Exceptions	Year Adopted	Committee Notes/Reasoning
501	Privileges: Federal courts may use common law power for incorporating privileges with respect to testimony	501	In civil cases, state law governs common law privileges for which there are state rules of decision.	1975	**Summary of House and Senate reports:** This rule authorizes federal courts to exercise common law power with respect to privileges, consistent with federal laws and Supreme Court precedent. The last line is an acknowledgement that in civil cases, state law applies (See Erie).
601	Competency to Testify: All persons can be a witness unless otherwise prohibited by the FRE.	601	In civil cases, state law may provide a different rule.	1975	**House Report 93-1597:** Both the House and Senate bills provide that federal competency law applies in criminal cases. In civil actions and proceedings… competency is determined in accordance with State law, unless with respect to the particular claim or defense, Federal law supplies the rule of decision. (See Erie)
609	Impeachment by Evidence of a Criminal Conviction: Evidence of a witness's prior felony conviction is generally admissible to prove his/her character.	609(a)	If the witness is the defendant in the criminal case, the court may block the evidence if its probative value is outweighed by its prejudicial effect, and only crimes involving an element of dishonesty are permitted.	Original rule for any witness: 1975 In 1990, it was amended such that any felony conviction can be introduced for all witness except the accused, but when the evidence concerns the accused, it may only be admitted if its prejudicial effect is outweighed by	**Notes:** There is little dissent from the general proposition that at least some crimes are relevant to credibility but much disagreement among the cases and commentators about which crimes are usable for this purpose. This rule is drafted to accord with the Congressional policy manifested in the 1970 legislation. For purposes of impeachment, crimes are divided into two categories by the rule: (1) those of what is generally regarded as felony grade, without particular regard to the nature of the offense, and (2) those involving dishonesty or false statement, without regard to the grade of the offense Generally perceived to benefit defendant.

FRE	Basic Rule	Sec.	Special Criminal Rule/Exceptions	Year Adopted	Committee Notes/Reasoning
				its probative value.	
609	Juvenile Adjudications: Evidence of juvenile adjudications is generally not admissible.	609(d)	Evidence of a juvenile adjudication is only admissible in criminal cases, but cannot be used to impeach the defendant.	1975	**Notes:** The prevailing view has been that a juvenile adjudication is not usable for impeachment. This conclusion was based upon a variety of circumstances. By virtue of its informality, frequently diminished quantum of required proof, and other departures from accepted standards for criminal trials under the theory of *parens patriae*, the juvenile adjudication was considered to lack the precision and general probative value of the criminal conviction. The rule recognizes discretion in the judge to effect an accommodation among these various factors by departing from the general principle of exclusion. In deference to the general pattern and policy of juvenile statutes, however, no discretion is accorded when the witness is the accused in a criminal case. Generally perceived to benefit defendant.
612	Writing to Refresh Memory: When a party introduces a written statement, the adverse party is allowed access to it, and may cross-examine the witness about it.	612(b)	In criminal cases, 18 U.S.C. 3500 (prevents access to some government records) may prevent this.	1975	This isn't really a difference between criminal/civil in the FRE; the rule applies to both types, but might be overridden by statute in the criminal context.
704	Opinion on Ultimate Issue: Opinions on ultimate issues are not expressly forbidden.	704(c)	Except when offered by expert witnesses in a criminal case on the defendant's mental state.	1984	The 1984 amendment has no explicit explanation. A concern about experts usurping the role of the factfinder has been expressed.
803	Exceptions to the Rule Against Hearsay: Certain types are hearsay may be permitted under appropriate circumstances	803(10)	One such circumstance is testimony that a diligent search has not found a certain record. This type of testimony is only allowed	1975 & 2013	The refusal of the common law to allow proof by certificate of the lack of a record or entry has no apparent justification. The rule takes the opposite position, as do Uniform Rule 63(17); California Evidence Code §1284; Kansas Code of Civil Procedure §60–460(*c*); New Jersey Evidence Rule 63(17). Congress has recognized certification as evidence of the lack of a record. It was

FRE	Basic Rule	Sec.	Special Criminal Rule/Exceptions	Year Adopted	Committee Notes/Reasoning
			under special conditions in a criminal case		amended in 2013 to require the prosecution to give the defense advance notice of certification. (Melendez-Diaz v. Massachusetts).
803	Exceptions to the Rule Against Hearsay: Certain types are hearsay may be permitted under appropriate circumstances	803(22)	Evidence of a prior conviction may be admitted, but only under certain circumstances	1975	**Summary of notes:** No obvious reasons, the discussion suggests that this evidence might often be relevant, but that prior convictions should not be dispositive on the current case, and that minor (often uncontested) offenses should not be used against the defendant.
804	Exceptions to the Rule Against Hearsay – When the Declarant is Unavailable. Hearsay from an unavailable declarant is generally unavailable, but under certain circumstances may be allowed.	804(b)	When the testimony is given in a criminal case such that it opens the declarant up to criminal liability, or is clearly a statement against their interest, it may be admitted provided there is corroborating evidence	1975 & 2010 & 2011	**Notes:** The circumstantial guaranty of reliability for declarations against interest is the assumption that persons do not make statements which are damaging to themselves unless satisfied for good reason that they are true. In 2010, the corroborating evidence requirement was strengthened.
1101	Applicability – Explains the scope of the FRE	1101	FRE do not apply to some aspects of the criminal system (warrants, pre-trial, extradition etc.)	1975	