

THE IDENTIFIER



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SCIAI Winter Issue

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2022 SCIAI Update

Now that most agencies are allowing travel, we have begun scheduling training classes once again. A bloodstain pattern analysis course was scheduled to take place on January 21st. We opened registration for 30 participants and filled the class within 4 hours! However, when the day came, our venue closed due to the threat of inclement weather. We do plan to re-schedule this course and will notify all previously registered attendees first and then open any additional seats to members.

Make plans to attend the **SCIAI conference** May 3-5 in Greer, SC this year. A new Hampton Inn has been built within a block of the Greer Event Center and they have offered a great rate to conference attendees. Topics covered this year will include processing for latent prints, blood detection techniques for various surfaces, forensic photography, public speaking, an OSAC update, mental preparedness and the survival mindset, recovery of buried remains, bloodstain pattern documentation and much more! There will be an all-day vendor hall where you can see all of the latest products and enter to win door prizes. If you have a case study you would like to present or a particular topic you would like to learn more about, let us know! We may be able to bring specific training to your department if you have an available training room.

SHOP TALK



Reforming Forensics: Why Academics Are Challenging the Science Behind U.S. Criminal Justice

By Bridget Alex Oct 15, 2021 10:00 AM

Statistics research doesn't usually require weapons. But to develop their latest algorithm, Iowa State University statisticians Alicia Carriquiry and Heike Hofmann needed thousands of bullets fired from a small collection of handguns. For nearly a year, Carriquiry and Hofmann, supervised by sheriff's deputies, unloaded round after round into a tube with Kevlar fibers. After each shot, they fished out the bullet and tucked it in a plastic baggie labeled with critical data: gun, barrel, shot number.

It's not just bullets, either. Over the past several years, the professors and their collaborators have amassed 160 pairs of well-trod sneakers, over 2,000 handwriting samples and 129 poster boards spattered with pig blood. Scanned and digitized, the items became first-of-their-kind data for research on crime scene evidence.



On detective shows and in reality, the task of analyzing clues like fingerprints and ransom notes usually falls to forensic examiners, not scholars of statistics.

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But Carriquiry and Hofmann belong to a movement of academic outsiders investigating the foundations and legitimacy of forensic science. An open secret drives their work: Fingerprints, bloodstains and other forms of forensic evidence entered the justice system without scientific vetting, and have largely evaded scrutiny ever since.

About a century ago, crime labs run by law enforcement – not scientists – began developing methods to connect clues to culprits, like fingerprint identifications. But peer-reviewed studies never took place to establish the methods' validity, reproducibility and error rates – key criteria that distinguish science from speculation.

The flimsy science came to light in 2009, with a blockbuster 350-page report authored by a National Research Council (NRC) committee of scientists, judges, lawyers and forensic practitioners who had spent two years reviewing the field. Unanimously, they concluded only straightforward DNA identifications met scientific standards.

The Innocence Project, a non-profit legal organization, found dubious forensics contributed to about half the wrongful convictions the group has overturned with DNA testing in the U.S. since 1992, including 14 death row sentences. The National Registry of Exonerations, a public database maintained by three universities, lists some 670 cleared cases, between 1989 and 2021, that originally involved false or misleading forensic evidence, ranging from bunk bite marks to smudgy fingerprints. Collectively, the innocent have languished in prison for thousands of years, while true perpetrators roam free.

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Seeking Evidence-Based Solutions

Critical research like this arose from the 2009 NRC report, which sparked some outcry and reform initiatives, then hit a wall. “They failed to penetrate the courts,” says Simon Cole, professor of criminology, law and society at the University of California, Irvine. Several years later, a 2016 report from the President’s Council of Advisors on Science and Technology (PCAST) documented little overall progress on scientific standards for forensic evidence. In 2017, a reform-minded advisory panel, created in the Obama era, was terminated by Trump’s Department of Justice – a move applauded by the National District Attorneys Association.

When the group formed in 2015, CSAFE faced cold shoulders from forensic practitioners, the professionals examining actual evidence in real cases. They feared that academics, with no practical experience, had come to trounce their methods and livelihoods. Waving white flags, CSAFE leadership promised partnerships, which have been borne out over the past six years. The professionals offer expertise and guidance. The professors undertake laborious studies, which wouldn’t be feasible for examiners with heavy caseloads and limited resources.

The NRC and PCAST reports also warned that most forensic methods have never been subjected to proof-of-concept studies, to establish validity and error rates. In science, these are must-haves. Without these checks, no one knows how often purported matches are wrong and true matches are missed.

For the full article go to: <https://www.discovermagazine.com/technology/reforming-forensics-why-academics-are-challenging-the-science-behind-criminal-justice>

Sights unseen

Research on a phenomenon known as inattention blindness suggests that unless we pay close attention, we can miss even the most conspicuous events.

By Siri Carpenter - Monitor Staff April 2001, Vol 32, No. 4

Picture this: a teen-ager, cruising down a familiar highway, keeping a conscientious eye on the speedometer, the rear view mirror, the oncoming traffic. Too late, he notices a deer standing in the road. He slams on the brakes but can't avoid striking the animal. Later, the teen insists to his skeptical parents that his eyes were on the road--he was paying attention to his driving. He just never saw the deer.

Why are the boy's parents skeptical? Because intuitively, people believe that as long as our eyes are open, we are seeing. Even as we recognize that the brain does a lot of processing behind the scenes, we expect that at least salient objects--a large animal in our path, for example--will capture our attention.

Just as people intuitively believe that seeing is a matter only of opening one's eyes, cognitive scientists also once assumed that visual perception is like a videotape--that the mind records what the eyes take in. But increasingly, studies of visual perception have demonstrated how startlingly little people see when we're not paying attention, a phenomenon known as "inattention blindness."

Inattention blindness is one of two perceptual phenomena that have begun to change scientists' view of visual perception, from one of a videotape to something far less precise. Beginning in the 1970s researchers began to recognize a phenomenon called "change blindness,"

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Sights unseen

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finding that people often fail to detect change in their visual field, as long as the change occurs during an eye movement or when people's view is otherwise interrupted. Such findings have spurred debates about how--and indeed, whether--the brain stores and integrates visual information.

Research on inattention blindness has come to the fore more recently. That work, showing people's inability to detect unexpected objects to which we aren't paying attention, raises other questions: How much visual input can the mind encode, consciously and unconsciously? What brings some visual objects to conscious awareness, while others remain unnoticed? What is the fate of information that is perceived only unconsciously?

Inattentional amnesia?

"At some level, I think every serious person in psychology has always believed that we don't consciously perceive everything that happens to us," Chabris comments. "The shocking thing was that you could show that so little is being perceived."

Some psychologists have questioned, however, whether inattentional blindness indeed reflects a failure of perception or instead represents limitations in memory--a kind of inattentional amnesia. Jeremy Wolfe, PhD, a psychologist at the Harvard University Medical School, and others have argued that it may be that people consciously perceive unattended objects but quickly forget them.

Sights unseen

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In one recent set of studies, Pennsylvania State University cognitive psychologist Cathleen Moore, PhD, and Johns Hopkins University colleague Howard Egeth, PhD, showed that although they are not consciously recalled, unattended patterns of dots can influence how people perceive objects to which they are paying attention. These results suggest that attention is critical not for engaging perceptual processing but rather for encoding the products of those processes into short term memory, so that they can be reported, contend Moore and Egeth.

"Moore and Egeth's work shows that we consciously see far less of our world than we think we do. We might well encode much of our visual world without awareness."

For the full article go to: <https://www.apa.org/monitor/apr01/blindness>



<https://steemit.com/>

Upcoming Training

SCIAI Conference: May 3-5 in Greer, SC

[Click here](#) to see other divisional training events and conferences

Employment Opportunities

Greenville County: [Forensic Evidence Technician](#)

City of Charleston: [DNA Technical Leader](#)

City of Columbia: [Evidence/Property Technician](#)

City of Myrtle Beach: [Civilian Crime Scene Technician](#)

City of Goose Creek: [Forensic Services/Evidence Technician](#)

