No. _____

IN THE
SUPREME COURT OF THE UNITED STATES

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PAUL GARY WALLACE,
Petitioner,

v.

UNITED STATES OF AMERICA,

Respondent.

_____

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Ninth Circuit

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PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

Whether and to what extent it violates a defendant's due process rights to allow a firearms examiner to testify conclusively that two sets of ballistics were fired from the same gun, even though this type of evidence is inherently subjective, unscientific, and has an unknown error rate?

PARTIES TO THE PROCEEDING

All parties appear in the caption of the case on the cover page.

RELATED PROCEEDINGS

- *United States v. Wallace*, No. 20-cr-00293, U.S. District Court for the Central District of California. Judgment entered Aug. 9, 2022.
- *United States v. Wallace*, No. 22-50176, U.S. Court of Appeals for the Ninth Circuit. Judgment entered July 2, 2024.

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PETITION FOR A WRIT OF CERTIORARI

Petitioner Paul Wallace respectfully prays for a writ of certiorari to review the judgment of the United States Court of Appeals for the Ninth Circuit.

OPINION BELOW

The opinion of the United States court of appeals appears in the Appendix. *See* App-1.

JURISDICTION

Petitioner was convicted of RICO conspiracy, and carrying a firearm in relation to a crime of violence, in violation of 18 U.S.C. §§ 1962(d) and 924(c), in the United States District Court for the Central District of California. The United States Court of Appeals for the Ninth Circuit reviewed his conviction under 28 U.S.C. § 1291, and affirmed in a memorandum disposition on July 2, 2024. *See* App-1. This Court has jurisdiction to review the judgment under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS

The Due Process Clause of the Fifth Amendment provides:

> No person shall be … deprived of life, liberty, or property, without due process of law …

U.S. Const. amend V.

STATEMENT OF THE CASE

I. At trial, the prosecution relied on testimony from a ballistics examiner to demonstrate that a firearm recovered from Petitioner's van was the "same gun" used in the murder Petitioner was charged with.

In 2022, Petitioner went to trial on charges stemming from what the government alleged was his involvement as a leader in the East Coast Crips street gang in South Los Angeles. The government alleged the East Coast Crips was a racketeering enterprise, involved in a pattern of racketeering activity involving murder, extortion, drug trafficking, and witness tampering.

Petitioner was tried on two counts: RICO conspiracy, and using or carrying a firearm in relation to a crime of violence. Relevant to each of these counts was a 2014 murder of a rival gang member named Reginald Brown. For the RICO charge, the government alleged as a special sentencing allegation that Petitioner aided and abetted Brown's murder; this elevated Petitioner's potential maximum sentence from 20 years to life. *See* 18 U.S.C. § 1963(a). For the § 924 charge, the government alleged that Brown's murder was the underlying crime of violence in which the firearm was used; as with the RICO count, this allegation also raised the statutory maximum sentence to life for this count. 18 U.S.C. § 924(j)(1).

The evidence about Brown's murder, and whether Petitioner was involved, was very much in dispute. The testifying eyewitness identified the shooter as a young man, whereas Petitioner is almost 60 years old. Surveillance video showed a car similar to Petitioner's drive by the murder scene, but there was no license plate to identify the car and Petitioner denied that the car was his. A cooperating witness of dubious credibility testified that, immediately

after the shooting, Petitioner had said "they" shot Brown, and also that "we" shot Brown. In short, no evidence clearly showed that Petitioner was involved in Brown's murder.

So the government relied on testimony from an LAPD firearm toolmark examiner who testified about test-firing a gun that was found in Petitioner's van years after Brown's murder, and comparing those casings with the shell casings found at the murder scene. Before trial, Petitioner objected under Federal Rule of Evidence 702 to the LAPD Criminalist's testimony, arguing that it was based on unreliable methods and had not been subjected to sufficient error testing. He also requested a *Daubert*[1] hearing. The trial court ruled that the expert couldn't testify that the bullet casings recovered from the Brown murder scene were from the "same gun" seized from Petitioner's van, nor that the seized gun was the one that fired the recovered bullets. But it overruled Petitioner's objections, and denied the request for a *Daubert* hearing. Though it never made an explicit reliability finding, the court held that as long as the expert didn't express any "certainty" about his conclusions, he could testify that the casings recovered from the Brown murder "matched" those test-fired from the gun seized from Petitioner's van.

At trial, the Criminalist explained his "comparison microscopy" methodology, where he compared two bullets under a microscope to determine whether their toolmarks could "be compared to see if they came from a common source." He then explained that after test-firing the firearm recovered from Petitioner's van, and comparing those shell casings to the ones recovered from the Brown murder, he concluded that the casings "were all fired by the

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[1] *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993).

same firearm." He asserted that this was a "positive identification," and that the shell casings were a "match."

Later, the case agent—an LAPD detective—reaffirmed the Criminalist's conclusion. During his testimony the detective referred to the Criminalist's testimony multiple times, and relied on it to claim that the firearm found in Petitioner's van was the "murder weapon," that the Criminalist had "matched" the firearm to Brown's murder, and that the Criminalist's testimony that the firearm was the murder weapon was "true."

The government relied on this ballistics testimony—and the Detective's repetition of it—as its strongest evidence to connect Petitioner to the Brown murder. Before trial, it acknowledged that it had significant "proof challenges to overcome" on this issue. Proving Petitioner's involvement was, in the government's words, "not a layup." That characterization was proven correct once trial was underway. Recognizing that it had not overcome its proof challenges, the government extended a mid-trial plea offer to Petitioner, which would have allowed Petitioner to plead guilty to the RICO count without admitting the special sentencing allegation of Brown's murder.

When Petitioner rejected this offer, the government pointed to the Criminalist's testimony to tie Petitioner to Brown's murder. During its closing, it referred to the ballistics testimony when arguing Petitioner was involved in Brown's murder, and consistently repeated the Criminalist's conclusion that the firearm seized from Petitioner's van was the firearm used to murder Brown. The prosecutor told the jury, for instance, that "[y]ou heard the ballistics testimony from Daniel Rubin describing how that firearm was used during that murder," and that the "ballistics tell you that" the firearm was the murder weapon.

After three days of deliberations, the jury convicted Petitioner, and he was sentenced to 300 months for the RICO count (above the 20-year statutory maximum without the special sentencing allegation), and 120 months on the § 924 count.

II. On appeal, the Ninth Circuit affirmed Petitioner's conviction.

Petitioner argued that the district court abused its discretion in admitting the ballistics testimony because it denied a *Daubert* hearing, failed to make a reliability finding, and because the toolmark testimony was unreliable. Further, he argued that allowing the Criminalist to testify in a way that indicated his conclusions were certain, rather than subjective and subject to interpretation, was misleading.

After argument, the Ninth Circuit affirmed Petitioner's conviction in a memorandum disposition. Relevant here, it held that the district court did not abuse its discretion in admitting the testimony, noting that no federal court had categorically found toolmark testimony unreliable. In rejecting Petitioner's argument that the Criminalist had testified misleadingly about the certainty of his conclusions, the Ninth Circuit held that the trial court was not required to sua sponte prevent the expert from testifying "categorically that the bullet casings came from the same gun."

REASONS FOR GRANTING THE PETITION

I. Due process requires that defendants be convicted only on the basis of reliable evidence, yet the lower courts routinely admit the testimony of firearms examiners despite a growing acknowledgement that this type of testimony is unscientific, unreliable, and inherently subjective.

A. *Toolmark identification testimony is inherently subjective and not subject to empirical testing.*

Testimony by forensic toolmark examiners, like the LAPD Criminalist's testimony in Petitioner's case, is generally presented to the jury as reliable expert testimony that the jury can rely upon to conclude that two sets of firearms, or shell casings, are a match. But this type of testimony is far from certain, scientific, or reliable.

First, the very nature of toolmark analysis underscores its inherent subjectivity. The Association of Firearm and Toolmark Examiners (AFTE) toolmark analysis methodology essentially consists of the following: a toolmark examiner purports to "match" scratches on a piece of fired ammunition to the firearm that supposedly made them by creating test fires with that firearm and comparing them under a microscope to the evidence marks. If the examiner, based on his judgment and experience (even if he has no experience with either the firearm or ammunition at issue), makes the subjective determination that there is "sufficient agreement" between the individual characteristics seen on the two sets of marks, he declares a "match" and concludes that they were fired from the same firearm. *See generally* PCAST Report[2] at 104.

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[2] President's Council of Advisors on Science and Technology, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* --Continued--

But, importantly, there is no objective standard for what constitutes sufficient agreement. Instead, the evidence is simply eyeballed. The AFTE Theory of Identification[3] simply instructs toolmark examiners "to seek out impressions or striations or striae" to determine if there is a sufficient agreement between the characteristics of a suspect bullet or casing to the evidence found at the crime scene. No quantification or objective standards are required, or are applied, to govern the types of "identifications" made. There is thus very little to guide or standardize examiners' opinions in particular cases.

To begin, there is no quantitative standard for what makes any particular mark suitable for comparison. The AFTE Glossary[4] contains no definition of the word "suitable," and defines "unsuitable," unhelpfully, as "unsuitable for comparison." *See* Glossary at 94. Whether a mark is suitable for comparison is based entirely on an individual examiner's subjective determination.

Moreover, the comparison of marks is not based on any objective measurements. Though the AFTE methodology itself provides that the significance of the similarity between marks should be determined by comparison of "the relative height or depth, width, curvature and spatial relationship of the individual peaks, ridges and furrows" between two sets of

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("PCAST Report") (Sept. 2016), available at obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_science_report_final.pdf.

[3] *See* National Institute of Justice, *AFTE Theory of Identification*, available at https://nij.ojp.gov/nij-hosted-online-training-courses/firearms-examiner-training/module-09/afte-theory-identification.

[4] *See* National Institute of Justice, *Firearms Examiner Training, Glossary*, available at https://nij.ojp.gov/nij-hosted-online-training-courses/firearms-examiner-training/glossary#afte%20theory.

striae, AFTE Theory of Identification ¶ 2, there is no requirement that—nor is it general practice for— toolmark examiners to actually take or compare any such measurements.

Similarly, there is no dispute that the AFTE standard for identification—"sufficient agreement"—is purely subjective. AFTE Theory of Identification at 1. AFTE defines "sufficient agreement" as agreement that exceeds the "best agreement demonstrated between toolmarks known to have been produced by different tools," *id.*, but there exists no quantitative standard for what this means. It is not written down, it cannot be looked up, and there is no database of known toolmarks to consult in determining this threshold. Indeed, the standard exists entirely within the mind of an individual examiner. AFTE acknowledges that the "current interpretation of individualization/identification is subjective," and that it is based entirely on that examiner's "training and experience" with the firearm and ammunition in question. *See id.*

And yet, different examiners have different levels of experience, both from one another and with any particular tool. Indeed, an individual examiner might have no training and experience with a particular tool or the marks that tool can make. As such (and even setting aside the influence of cognitive bias that can occur from an examiner receiving information about the case before her examination), it is necessarily the case that different training and experience (or lack thereof) will lead to differences in the recognition of what exceeds the "best demonstrated agreement of known non-matches."

This total lack of quantification or objective criteria means that every aspect of toolmark examination—whether a mark is suitable for comparison, whether there are, in fact, similar marks, and, if so, what constitutes sufficient similarity—exists entirely within

the mind of each individual examiner. However, as discussed above, each examiner has different levels (or a lack) of training and experience both in general, and with respect to any given firearm. Moreover, there is no standard against which to compare an examiner's conclusion, which means there is no way to know if an examiner simply guessed.

Compounding the problems with the inherent—and admitted—subjectivity of toolmark analysis is that toolmark examiners generally do not undertake reliability testing, so there is no way to convey to juries the known error rate or relative unreliability of the analysis. As experts in the field have noted, the "*only* way to establish the scientific validity and degree of reliability of a *subjective* forensic feature comparison method—that is, one involving significant human judgment—is to test it *empirically* by seeing how often examiners actually get the right answer." President's Council of Advisors on Science and Technology, *An Addendum to the PCAST Report on Forensic Science in the Criminal Courts* (2017) at 1.[5] Moreover, to generalize these error rates from studies to error rates in casework, the studies must sufficiently mimic the conditions of casework such that the error rates can be expected to replicate those in casework. Yet, at present, there exist no studies establishing that AFTE's firearm toolmark examination methodology creates accurate, repeatable, and reproducible results. PCAST Report at 11-12, 104-113; Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council,

[5] "PCAST Addendum," available at https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensics_addendum_finalv2.pdf

Strengthening Forensic Science in the United States: A Path Forward ("NAS Report") (Aug. 2009) [6], at 154.

Simply put, toolmark examination "falls short of the scientific criteria for foundational validity." PCAST Report at 11. As PCAST concluded, "[w]ithout appropriate estimates of [the method's] accuracy, an examiner's statement that two samples are similar—or even indistinguishable—is scientifically meaningless: it has no probative value, and considerable potential for prejudicial impact." *Id.* at 6.

It is unsurprising, then, that the whole field of toolmark examination has become the cause of increasing concern among scientists, statisticians, and the legal community. Four reports issued by three separate committees of nationally recognized experts concluded that the scientific validity of firearm toolmark evidence has not been established.

Beginning in 2008 and continuing through 2017, the National Academy of Sciences (NAS) and the President's Council of Advisors on Science and Technology (PCAST) convened committees to closely examine concerns regarding scientific validity, reliability, and error rates in the toolmark field and issued four reports. Importantly, the committees authoring these reports consisted of independent scientists and professors with expertise in physics, chemistry, biology, materials science, engineering, biostatistics, statistics, scientific methodology and study design, and medicine, as well as judges and lawyers—rather than toolmark examiners, whose financial and professional stake in the continued embrace of their discipline is apparent.

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[6] Available at www.ojp.gov/pdffiles1/ nij/grants/228091.pdf.

Each of those national scientific committees heard testimony from forensic scientists, reviewed nearly every available journal article and study involving toolmark examination, and read every article or study submitted by members of the forensic community. *See*, *e.g.*, PCAST Report at 2, 155–60; NAS Report at 2-3. As such, these bodies were uniquely qualified to determine whether this field is based on valid, reliable scientific principles or methodologies.

In the end, the conclusions of these committees were uniform and devastating: the "fundamental assumptions" underlying toolmark examination, including the claimed uniqueness of all striae, have not been proven; the theory of toolmark identification—*i.e.*, "individualization" or matching any particular tool to a particular mark—is "not a scientific theory"; the method is subjective; and there is insufficient empirical evidence establishing either the scientific validity of the field or even estimating the reliability of toolmark examinations. PCAST Addendum at 3; NAS Report at 154; PCAST Report at 47, 60, 104, 111, 113. In short, the committees concluded that toolmark examination consists of applying a subjective methodology to an unvalidated assumption, and it lacks the studies necessary to demonstrate that it produces reliable, repeatable results.

Moreover, since publication of the NAS and PCAST Reports, the scientific community has elaborated upon and amplified the criticisms of firearm and toolmark evidence. A litany of publications by authors spanning multiple disciplines have continued to call forensic toolmark identification testimony into question, including but not limited to:

• David L. Faigman, Nicholas Scurich, & Thomas D. Albright, *The Field of Firearms Forensics Is Flawed*, SCI. AM. (May 25, 2022) (discussing the inherent subjectivity of firearm and toolmark examination and lack of foundational validity);

• Itiel E. Dror & Nicholas Scurich, *(Mis)use of Scientific Measurements in Forensic Science*, 2 FORENSIC SCI. INT'L: SYNERGY 333 (2020) (analyzing common flaws in the calculation of error rates in the extant validation studies regarding firearm and toolmark examination);

• William A. Tobin, H. David Sheets & Clifford Spiegelman, *Absence of Statistical and Scientific Ethos: The Common Denominator in Deficient Forensic Practices*, 4 STATISTICS & PUB. POL'Y (2017) (identifying significant concerns regarding the reliability and foundational validity of firearm and toolmark examination, among other forensic disciplines);

• Thomas D. Albright, *How to Make Better Forensic Decisions*, PROC. NAT'L ACAD. OF SCI., at 7 (Sept. 2022) (outlining the vulnerabilities of forensic pattern comparison methods and suggesting specific strategies for improvement);

• Alan H. Dorfman & Richard Valliant, *Inconclusives, Errors, and Error Rates in Forensic Firearms Analysis: Three Statistical Perspectives*, at 5, 5 FORENSIC SCI. INT'L: SYNERGY (June 8, 2022) (finding that the design of firearms validation studies must be significantly improved in order to yield probative error rates); and

• Heike Hoffman, Alicia Carriquiry & Susan Vanderplas, *Treatment of Inconclusives in the AFTE Range of Conclusions*, 19 LAW, PROB., AND RISK 317 (2020) (examining how the treatment of inconclusive results in firearms studies can significantly influence the calculation of the error rate, oftentimes causing much lower error rates to be reported than what is actually accurate).

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In sum, the available evidence on toolmark identification testimony demonstrates that this type of evidence and testimony—generally presented as expert testimony, based on scientific principles—is the product of an unproven theory, inherently subjective, and subject to an unknown error rate.

B. *Admitting unscientific, unreliable, and subjective evidence like toolmark analysis violates criminal defendants' due process rights.*

As this Court well knows, the Constitution protects a defendant against conviction based on unreliable evidence. *See Perry v. New Hampshire*, 565 U.S. 228, 237 (2012) ("The

Constitution, our decisions indicate, protects a defendant against a conviction based on evidence of questionable reliability"). It has held that the Due Process Clause is violated when a defendant is convicted based on unreliable evidence, and so the Clause bars the admission of unreliable evidence. *See*, *e.g.*, *Michigan v. Bryant*, 562 U.S. 344, 370 n.13 (2011); *see also Montana v. Egelhoff,* 518 U.S. 37, 53 (1996) (plurality opinion) ("[E]rroneous evidentiary rulings can, in combination, rise to the level of a due process violation"); *Dutton v. Evans,* 400 U.S. 74, 96–97 (1970) (HARLAN, J., concurring in result) ("[T]he Fifth and Fourteenth Amendments' commands that federal and state trials, respectively, must be conducted in accordance with due process of law" are the "standard" by which to "test federal and state rules of evidence"). Indeed, there are circumstances in which the introduction of evidence is so "extremely unfair that its admission violates 'fundamental conceptions of justice'" and violates due process. *See Dowling v. United States*, 493 U.S. 342, 352 (1990).

Toolmark identification testimony falls into this category of unreliable, unscientific evidence that violates a defendant's due process rights when it is admitted in a criminal trial. In fact, the PCAST Report concluded that toolmark identification testimony is so inherently subjective that—contrary to the type of testimony the lower courts admit that conclusively identify the source of bullets—"courts should never permit scientifically indefensible claims such as ... 'to the exclusion of all other sources.'" PCAST Report at 19.

Despite this, the lower courts continue to allow firearm examiners to testify as experts and claim that they can conclude, with a scientific certainty, that a bullet was fired from a specific gun. *See*, *e.g.*, *United States v. Hunt*, 99 F. 4th 161, 182 (4th Cir. 2024)

(dismissing argument that toolmark evidence is categorically inadmissible because it is unreliable, and finding it sufficient to allow defense to cross-examine ballistics expert about reliability); *United States v. Pete*, 2024 WL 4040388, *2 (11th Cir. 2024) (finding toolmark testimony sufficiently reliable for admission, in part because it "continues to be used in federal courts after the PCAST Report … criticized the existing studies of its reliability"); *United States v. Hunt*, 63 F. 4th 1229, 1244-45 (10th Cir. 2023) (recognizing that district courts should be "cautious" in admitting toolmark testimony, in "light of the critiques expressed in the PCAST" report, but nevertheless affirming the admission of toolmark examiner's testimony and finding it reliable); *United States v. Brown*, 973 F.3d 667, 703-04 (7th Cir. 2020) (noting that challenge to reliability "has respectable grounding," citing PCAST report, but nevertheless rejecting challenge to reliability); *United States v. Johnson*, 861 F. App'x 483, 486-87 (2d Cir. 2021) ("doubt[ing] that admission of [expert's] testimony was an abuse of discretion," in part because court had previously affirmed admission of toolmark identification testimony); *United States v. Johnson*, 875 F.3d 1265, 1279-80 (9th Cir. 2017) (finding no abuse of discretion from admission of toolmark identification testimony because defendant did not cite a case where AFTE testimony was completely excluded); *United States v. Williams*, 506 F.3d 141, 157-62 (2d Cir. 2007) (finding district court did not abuse its discretion in admitting toolmark examiner's testimony).

Admitting toolmark identification analysis, under the guise of reliable expert testimony, runs afoul of the Due Process Clause. This type of testimony has been repeatedly called into question because its subjectivity, unknown error rates, and unreliability do not match the scientific certainty with which the testimony is presented to a jury. And yet it

continues to be admitted against criminal defendants and serve as the basis for the convictions. In some instances–like Petitioner's here–it is admitted as reliable, credible evidence that significantly increases the penalty criminal defendants face, despite the fact that it is widely known to be unreliable, and untested, evidence. It violates due process to convict an individual beyond a reasonable doubt based on the subjective and unreliable (but cloaked as "expert") opinion presented to a jury. *See*, *e.g.*, *Perry*, 565 U.S. at 237. The Court should grant the petition to ensure that life and liberty do not hang on a coin toss.

II. The case provides the Court with an ideal vehicle for addressing the reliability of toolmark identification analysis and whether its introduction violates defendant's due process rights.

This case provides an ideal vehicle for reaching the issue presented. Petitioner raised the toolmark evidence reliability issue pretrial and requested a *Daubert* hearing, which the trial court denied. At trial, the government presented extensive ballistics testimony by a LAPD Criminalist, and relied on this to argue to the jury that the firearm found in Petitioner's car was the murder weapon used in Brown's murder. This was presented as conclusive, scientific evidence, which LAPD homicide credited as true and relied upon in its casework. And the government relied on the testimony as its strongest evidence to argue that Petitioner was involved in Brown's murder.

Further, the issue was squarely presented to the Ninth Circuit and the court affirmed Petitioner's conviction, in part by holding that there was no error in admitting the contested ballistics testimony.

A decision from this Court that toolmark identification analysis is unreliable, or, at the least, subjective and requiring a *Daubert* analysis as part of the district court's gatekeeping

responsibilities, would affect the outcome in Petitioner's case. The special circumstance allegation that Petitioner participated in Brown's murder presented, as the government conceded, serious proof problems: there was no eyewitness and the testimony linking Petitioner was highly disputed and was presented by an uncredible cooperating witness, whose testimony on other issues the jury clearly rejected. Given this, the government presented the toolmark testimony as reliable, certain, scientific evidence showing that Petitioner possessed the firearm used to murder Brown. If the Court were to address the issue presented here and cast doubt on the reliability or admissibility of this testimony, it would place the special circumstance finding in jeopardy and likely result in, at least, a lower sentence for Petitioner.

CONCLUSION

The Court should grant the writ to address the extent that it violates defendants' due process rights to be convicted on the basis of unreliable, unscientific, and misleading toolmark identification evidence.

Date: September 30, 2024

Respectfully submitted,

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