IN THE COURT OF APPEALS OF MARYLAND

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CSX TRANSPORTATION, INC.,

Petitioner,

v.

DONALD E. MILLER,

Appeal No. 124

Alexander L. Cummings, Clerk Court of Appeals of Maryland

* September Term, 2004

Respondent.

MOTION OF THE CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA TO FILE AMICUS CURIAE BRIEF IN SUPPORT OF PETITIONER

Amicus Curiae, the Chamber of Commerce of the United States of America (the "Chamber"), through undersigned counsel, respectfully requests that this Court permit the filing of the enclosed *Amicus* Brief in support of Petitioner CSX Transportation Inc. pursuant to Maryland Rule 8-511, and for cause states as follows:

1. The Chamber is the world's largest federation of business organizations and individuals. The Chamber represents an underlying membership of more than three million businesses of every size, in every sector, and from every geographic region of the country, including many members in Maryland. One of the Chamber's primary missions is to represent the interests of its members by filing *amicus* briefs in cases involving issues of national concern to American business.

2. The specific interest of the Chamber in this case relates to the admission by the trial court, affirmed by the Court of Special Appeals, of expert testimony opining about medical causation in connection with the claims of injury of the Respondent, Donald E. Miller. The Chamber and its members have an interest in the standards

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Maryland uses to determine the admissibility of expert evidence relating to scientific, medical, and technical issues in civil tort and commercial litigation cases.

3. The proposed brief of *Amicus Curiae* raises issues concerning whether Maryland's standards for the admissibility of expert scientific, medical, and technical testimony adequately give effect to the dictates of the Maryland Rules, in particular Rule 5-702, which establishes that the touchstone for expert admissibility is reliability and requires that the trial court conduct an initial reliability inquiry to screen out unreliable expert testimony. The Chamber is concerned, on behalf of its members in Maryland and elsewhere, that the old *Frye/Reed* standard adopted in Maryland prior to the adoption of Rule 5-702 is not consistent with the requirements of the Rule and is out of step with most other states that, like Maryland, have rules of evidence modeled on the federal rules.

3. The proposed brief of *Amicus Curiae* is desirable because it assists the Court to understand the perspective of the business community on this important issue, which impacts the quality of the business environment in Maryland, and because it informs the Court about the decisions of at least 30 of its sister state high courts to abandon the old *Frye* "general acceptance" test in favor of a standard based on the United States Supreme Court's decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), which provides a flexible but unitary framework for assessing the reliability of expert scientific and medical testimony.

WHEREFORE, Amicus Curiae the Chamber of Commerce of the United States of America respectfully suggests that its views in the accompanying Amicus Brief will assist

the Court in deciding the issues before it and requests that this Court permit the filing of

the Chamber's Amicus Brief.

February 22, 2005

Respectfully submitted,

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Rule 1-313 Certification

I, Robert E. Johnston, hereby certify that I am admitted to practice law before the Court of Appeals of Maryland.

Robert E. Johnston

IN THE COURT OF APPEALS OF MARYLAND

CSX TRANSPORTATION, INC., * Petitioner, * Appeal No. 124 v. * September Term, 2004 DONALD E. MILLER, * Respondent. *

[PROPOSED] ORDER GRANTING MOTION OF THE CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA TO FILE AMICUS CURIAE BRIEF IN SUPPORT OF PETITIONER

Upon consideration of the motion by *Amicus Curiae* the Chamber of Commerce of the United States of America to file an *amicus curiae* brief in support of Petitioner CSX Transportation Inc. and any responses thereto, and for good cause shown, it is hereby

ORDERED, that the motion of Amicus Curiae the Chamber of Commerce

of the United States of America is GRANTED.

, 2005

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 22nd day of February 2005, a copy of the foregoing was mailed, postage prepaid, to:

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IN THE COURT OF APPEALS OF MARYLAND

SEPTEMBER TERM, 2004 APPEAL NO. 124

CSX TRANSPORTATION, INC.,

Petitioner,

v.

DONALD E. MILLER,

Respondent.

BRIEF OF AMICUS CURIAE CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA IN SUPPORT OF PETITIONER CSX TRANSPORTATION, INC.

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STATEMENT OF THE CASE

The Chamber of Commerce of the United States of America (the "Chamber") is the world's largest federation of business organizations and individuals. The Chamber represents an underlying membership of more than three million businesses of every size, in every sector, and from every geographic region of the country, including many members in Maryland. One of the Chamber's primary missions is to represent the interests of its members by filing *amicus* briefs in cases involving issues of national concern to American businesss.

The Chamber adopts Petitioner's Statement of the Case.

QUESTION PRESENTED

Should this Court instruct trial courts to screen all proposed scientific, medical, and technical expert testimony for reliability and establish a framework for doing so?

STATEMENT OF FACTS

In the decision below, the Court of Special Appeals reported that Respondent Donald E. Miller won a jury verdict on his claim under the Federal Employer's Liability Act for bilateral osteoarthritis of the knees allegedly caused by his work as a road conductor and yard conductor for Petitioner CSX Transportation, Inc.¹ In particular, Miller claimed his injuries were caused, in part, by repeatedly walking and jumping on the large road ballasts maintained

¹ CSX Transp. Inc. v. Miller, 159 Md. App. 123, 128, 145-46 (2004).

along CSX's railroad tracks.² The trial court admitted opinion testimony of three of Miller's causation experts under Maryland Rule of Evidence 5-702. In upholding that evidentiary ruling, the Court of Special Appeals held that (1) the *Frye/Reed* "general acceptability" test for determining expert admissibility did not apply because the methodologies employed by Miller's experts were not novel, and (2) the trial court did not abuse its discretion in admitting the expert testimony under the elusive "standard" that applies in Maryland to non-novel expert testimony.³ The Chamber believes it is time for Maryland to announce a uniform standard for the admissibility of novel and non-novel scientific and medical expert testimony alike that is based on the criterion of reliability, not *Frye/Reed* general acceptability.

ARGUMENT

Since the United States Supreme Court decided *Daubert v. Merrell Dow Pharmaceuticals, Inc.*⁴ in 1993, at least 30 states have adopted both (i) *Daubert's* fundamental principles that scientific, medical, and technical evidence must be reliable to be admissible and that the trial court must actively screen proposed expert testimony to filter testimony based on unreliable methodologies; and (ii) some variation of the test established by the Supreme Court for conducting this reliability analysis. Maryland now finds itself in the (ever-shrinking) minority of

 2 Id.

³ *Id.* at 186, 204-11.

⁴ 509 U.S. 579 (1993).

jurisdictions, particularly among those that have adopted rules of evidence modeled on the federal rules, that continues to cling to the antiquated *Frye* test.⁵

This Court should bring Maryland up to date by reaffirming that reliability, not general acceptance, is the *sina qua non* of all expert testimony, instructing that the trial courts must serve as gatekeeper to keep unreliable expert evidence from the jury, and announcing a uniform test or standard for what it means for expert testimony to be reliable. Maryland should join the vast and growing majority of states that have already taken these steps by adopting a standard based on *Daubert*.⁶

The *Daubert* versus *Frye* debate, with which virtually every jurisdiction has grappled over the past decade, boils down to one essential question: Does the trial court have a meaningful role to play in screening expert testimony to ensure that the jury is presented only scientific, medical, and technical evidence that is "reliable," *i.e.*, based on a reliable and sound methodology? That debate should effectively have ended with the adoption of the Federal Rules of Evidence and state counterparts modeled thereon, particularly Rule 702, but unfortunately it has

⁵ See Reed v. State, 283 Md. 374, 381 (1978).

⁶ The Committee Note to Rule 5-702 seems to contemplate the eventual adoption of Dauber in Maryland. The Note indicates that while the Rule was not intended to overrule *Reed*, "[t]he required scientific foundation for the admission of novel scientific techniques or principles is left to development through case law. Compare *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786 (1993)." This case provides an opportunity for just such "development through case law."

not. *Frye*, which emerged long before Rule 702 was adopted, is still being cited as a rule governing so-called "novel" scientific testimony. *Frye* removes the gatekeeping role from the trial court and assigns it to the scientific community by limiting the trial court to a determination solely whether the expert's methodology has been "generally accepted," not whether it is reliable. The "general acceptance" rule is not an effective proxy for scientific reliability and is not consistent with evidentiary rules modeled on Federal Rule of Evidence 702, like Rule 5-702. Clear guidance to this effect is required from this Court.

The tension between the Rules of Evidence and the *Frye/Reed* general acceptance standard has resulted in court rulings in Maryland on expert admissibility that are inconsistent, confusing, and lacking in rigorous or uniform analysis. This case provides a prime example. The decision below by the Court of Special Appeals recognized that Rule 5-702 requires that "the expert employ a reliable methodology,"⁷ yet, in the absence of guidance from this Court about the appropriate standard or test by which it should assess reliability, the Court of Special Appeals applied *no* discernible standard at all. It merely described the methodology used and then declared without analysis or explanation that "[t]he reasoning process that went into [the experts'] diagnoses of Miller's ailment and

⁷ CSX Transp. Inc., 159 Md. App. at 189.

its likely cause was impeccable." The court referred to no source or authority outside of the experts' *ipse dixit.*⁸

It concerns the Chamber's members in Maryland and throughout the country that Maryland currently lacks a uniform and well-defined standard for determining what science goes before the jury and what science does not. A propitious business climate requires that a jurisdiction's legal system dispense and administer justice fairly and consistently and that there be rules in place to minimize arbitrary results. Business values predictability and certainty perhaps above almost all other virtues, but those qualities are lacking under Maryland's current *ad hoc* regime. Accordingly, this Court should reaffirm the reliability standard for all expert testimony and adopt *Daubert's* predictable and reasonable criteria for implementing the reliability standard.⁹

⁹ Reed itself sought to inject consistency into expert admissibility determinations:

The answer to the question about the reliability of a scientific technique or process does not vary according to the circumstances of each case. It is therefore inappropriate to view this threshold question of reliability as a matter within each trial judge's individual discretion. Instead, considerations of uniformity and consistency of decision-making require that a legal standard or test be articulated by which the reliability of a process may be established.

283 Md. at 381 (1978). After more than 25 years of experience with *Reed*, that goal remains elusive.

⁸ *Id.* at 204. *See General Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) ("Nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to the existing data only by the *ipse dixit* of the expert.").

I. THE MARYLAND RULES OF EVIDENCE REQUIRE THE TRIAL COURT TO SCREEN OUT UNRELIABLE SCIENTIFIC EXPERT TESTIMONY.

There should be no real controversy that expert testimony is admissible in Maryland only if shown to be "reliable" – that is, derived from a reliable and trustworthy methodology. As a general matter, this Court has repeatedly held that reliability is the touchstone of admissible scientific evidence.¹⁰

Maryland's reliability requirement predates its adoption of the Rules of

Evidence in 1994,¹¹ but the reliability requirement plainly is incorporated into

Maryland Rule of Evidence 5-702, which provides:

Expert testimony may be admitted, in the form of an opinion or otherwise, if the court determines that the testimony will assist the trier of fact to understand the evidence or to determine a fact in issue. In making that determination, the court shall determine (1) whether the witness is qualified as an expert by knowledge, skill, experience, training, or education, (2) the appropriateness of the expert testimony on the particular subject, and (3) whether a sufficient factual basis exists to support the expert testimony.

The reliability requirement is found in at least two places. First, testimony must be scientifically reliable in order to "assist the trier of fact to understand the evidence or to determine a fact in issue." Unreliable testimony cannot help the

¹⁰ E.g., Cole v. State, 378 Md. 42, 58 n.14 (2003) ("Expert testimony relating to scientific testing is not admissible unless the tests the expert ran are reliable."); Wilson v. State, 370 Md. 191, 200 (2002) ("[T]he trial judge has wide latitude in determining whether expert testimony is sufficiently reliable to be admissible.").

¹¹ For example, in *Reed* this Court declared, "[W]ith particular regard to expert testimony based on the application of new scientific techniques, it is recognized that prior to the admission of such testimony, it must be established that the particular scientific method is itself reliable." 283 Md. at 380.

jury understand the evidence or properly resolve a fact question; to the contrary, unreliable opinion testimony impedes the jury from these goals by posing a distraction at best, and more likely misleading the jury to create the risk of an erroneous conclusion.¹² Second, as the Court of Special Appeals held below, the Rule's mandate that the expert have a "sufficient factual basis" for his or her opinions necessarily requires that the expert utilize a reliable methodology.¹³

The *Frye/Reed* test undermines the reliability requirement established in the Rules. The principal problem is that the test amounts to an abdication of the trial court's responsibility under Rule 5-702 to make a preliminary determination of reliability. Indeed, Maryland's *Reed* jurisprudence is explicit that reliability is "not for the courts to decide. *Reed* requires that the scientific community make that judgment."¹⁴ But this position cannot be reconciled with the dictates of Rule 5-702. Trial courts do not fulfill their Rule 5-702 obligation merely by mechanically assessing general acceptance, because that standard is an ineffective

¹² See Daubert, 509 U.S. at 597 ("[c]onjectures that are probably wrong are of little use, however, in the project of reaching a quick, final, and binding legal judgment – often of great consequence – about a particular set of events in the past"); Wilson, 370 Md. at 200 ("[t]estimony concerning an unreliable scientific process, technique or unreliable opinion is of little value to a jury"); Rider v. Sandoz Pharms. Corp., 295 F.3d 1194, 1197 (11th Cir. 2002) ("Daubert . . . has greatly improved the quality of the evidence upon which juries base their verdicts").

¹³ *CSX Transp. Inc.*, 159 Md. App. at 189 ("sufficient factual basis" includes two "sub-factors," an adequate supply of data and a reliable methodology for analyzing the data).

¹⁴ Cobey v. State, 73 Md. App. 233, 243 (1987).

stand-in for reliability. Newer methodologies that have not had time to gain general acceptance are excluded regardless of how sound and reliable they may be; and unreliable or untestable methodologies may be admitted if they have become ensconced among a particular medical or scientific community (perhaps narrowly defined), even if it could be shown that such methodology leads to erroneous results in most cases. In short, the *Frye/Reed* general acceptance standard is both under- and over-inclusive.

And even if general acceptance were an effective surrogate for reliability, one may well ask why that surrogate should be applied *only* in cases where a methodology is deemed "novel." *Frye/Reed* leaves a whole vast category of scientific and medical testimony – namely, testimony based on non-novel methodologies – without a uniform standard for assessment or any guidance as to how the analysis should be conducted. Instead, the trial court has virtually unfettered discretion to make up whatever standardless determination it wants. This is a recipe for arbitrariness and inconsistency.¹⁵

Under the *Frye/Reed* regime, the jury becomes the sole arbiter of the reliability of a scientific methodology, even though Rule 5-702 expressly requires

509 U.S. at 593 n.11.

¹⁵ As the Supreme Court observed in Daubert,

Although the *Frye* decision itself focused exclusively on "novel" scientific techniques, we do not read the requirements of Rule 702 to apply specially or exclusively to unconventional evidence.

that determination to be made initially by the court. Rule 5-702 determines *admissibility*, so the reliability requirement contained in the rule means that juries should not have to confront scientifically unsound expert opinions in the first place. The trial court must screen out such unreliable expert testimony, but *Frye/Reed* prevents the trial court from fulfilling this obligation by limiting the court's inquiry to general acceptance, not reliability.

II. THE *DAUBERT* TEST GIVES EFFECT TO THE DICTATES OF RULE 5-702 AND PROVIDES A UNIFORM, THOUGH FLEXIBLE, APPROACH.

In supplanting the old *Frye* "general acceptance" test with a new standard to account for the adoption of Federal Rule of Evidence 702, the Supreme Court emphasized two fundamental points: the *sine qua non* of admissibility is reliability, not general acceptance; and the trial court must serve as gatekeeper to keep unreliable expert testimony from the jury:

That the *Frye* test was displaced by the Rules of Evidence does not mean, however, that the Rules themselves place no limits on the admissibility of purportedly scientific evidence. Nor is the trial judge disabled from screening such evidence. To the contrary, under the Rules the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.

* * * * *

[O]ur reference here is to *evidentiary* reliability – that is, trustworthiness. . . . In a case involving scientific evidence, *evidentiary* reliability will be based upon *scientific* validity.

* * * * *

Faced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset, pursuant to Rule 104(a), whether the expert is proposing to testify to (1) scientific knowledge that (2)

will assist the trier of fact to understand or determine a fact in issue. This entails a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.

* * * * *

To summarize: "General acceptance" is not a necessary precondition to the admissibility of scientific evidence under the Federal Rules of Evidence, but the Rules of Evidence – especially Rule 702 – do assign to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand. Pertinent evidence based on scientifically valid principles will satisfy those demands.

509 U.S. at 589, 590 n.9, 592-93, 597 (footnotes omitted) (emphasis in original).

In applying these principles, the Supreme Court listed four non-exclusive factors that trial courts could consider in weighing the reliability of proffered scientific expert testimony: (1) whether the expert's theory can and has been tested; (2) whether the expert's theory has been subjected to peer review publications; (3) the known potential rate of error of the expert's theory and the existence and maintenance of standards controlling the technique's operation; and (4) whether the theory has found "general acceptance" within the pertinent scientific or medical community.¹⁶ The last factor, of course, incorporates the old *Frye* standard, which under *Daubert* is a relevant consideration but not the sole inquiry.

Daubert recognized that all four factors may not apply in all cases to different types of testimony, and thus the Supreme Court declined to establish a

¹⁶ *Id.* at 592-94.

definitive checklist. *Daubert* thus balanced the need for a framework of analysis that would greatly facilitate the consistency of results among different trial courts with the need for sufficient flexibility to avoid blatant miscarriages of justice in particular cases.

The Chamber respectfully submits that this Court should adopt a *Daubert*like standard to give effect to Rule 5-702 while establishing a framework that fosters consistency and predictability. The Court should once and for all direct trial courts in Maryland to act as gatekeepers to screen out scientifically unreliable testimony.

III. BY CLINGING TO *FRYE/REED*, MARYLAND IS IN THE MINORITY OF STATES AND ON THE WRONG SIDE OF THE HISTORICAL TREND.

In adopting the *Frye* "general acceptance" standard 27 years ago, this Court took note of the fact that most of Maryland's sister states at that time had done likewise.¹⁷ Now, it is equally noteworthy that most states have turned away from *Frye* and adopted *Daubert* or a variation thereof. One commentator described the trend as follows:

The cracks in the foundation of the Frye standard widened when the Supreme Court decided Daubert. More than seventy years had passed since the court of appeals in Frye announced the general acceptance requirement. In that time, forty-five states adopted or affirmed a Frye-like test. By 1992, however, the Frye heyday had passed, and the states were poised for a new test. Consequently, in a

¹⁷ *Reed*, 283 Md. at 382 ("This criterion of 'general acceptance' in the scientific community has come to be the standard in almost all of the courts in the country which have considered the question of the admissibility of scientific evidence.").

period of merely four years, twenty-eight states either adopted the Daubert standard, explicitly assimilated it as similar to a test already in place, or maintained a Daubert-like test without mentioning Daubert.... In sum, thirty-three states have adopted Daubert in essence since the Supreme Court decided the case

Heather G. Hamilton, The Movement From Frye to Daubert: Where Do The

States Stand?, 38 JURIMJ 201, 208-09 (1998) (footnotes omitted).

We provide below a compendium of 30 state high court opinions adopting

Daubert or a Daubert-like standard (or explaining that the state already adheres to

such a standard) for determining the admissibility of scientific, medical, and

technical expert testimony and excerpt the salient passages from these opinions.

The decisions of these state supreme courts make a compelling case for the

adoption of Daubert in Maryland.

1. Alaska

State v. Coon, 974 P.2d 386, 393, 394, 395 (Alaska 1999)

"Nothing in our evidence rules requires or implies that any single criterion, let alone *Frye's* general acceptance standard, controls admission of scientific opinion evidence... Our evidence rules give trial courts both the authority and the responsibility to determine the admissibility of such evidence without being limited to the general acceptance standard.... *Frye* is potentially capricious because it excludes scientifically reliable evidence which is not yet generally accepted, and admits scientifically unreliable evidence which although generally accepted, cannot meet rigorous scientific scrutiny.... How should Alaska trial courts assess the reliability and relevance of proffered scientific evidence? The factors identified in *Daubert* provide a useful approach."

2. Arkansas

Farm Bureau Mut. Ins. Co. v. Foote, 14 S.W.3d 512, 519 (Ark. 2000).

"Two years before the Court's decision in *Daubert*, this court adopted a strikingly similar approach to the admission of novel scientific expert testimony in *Prater v. State*, 307 Ark. 180, 820 S.W.2d 429 (1991). This approach, based on Arkansas Rules of Evidence 401, 402, and 702, requires the trial court to conduct a preliminary inquiry focusing on (1) the reliability of the novel process used to generate the evidence, (2) the possibility that admitting the evidence would overwhelm, confuse, or mislead the jury, and (3) the connection between the evidence to be offered and the disputed factual issues in the particular case. Under this approach, reliability is the critical element."

3. Colorado

People v. Shreck, 22 P.3d 68, 77-78 (Colo. 2001).

"We therefore hold that the rules of evidence, particularly CRE 702 and CRE 403, represent a better standard [than Frye], because their flexibility is consistent with a liberal approach that considers a wide range of issues.... The focus of a Rule 702 inquiry is whether the scientific evidence proffered is both reliable and relevant. [citing *Daubert*]... [W]e hold that the CRE 702 inquiry contemplates a wide range of considerations By way of illustration, however, we recite here the wide range of issues other courts have considered when making a Rule 702 determination. [Citing *Daubert*]."

4. Connecticut

State v. Porter, 698 A.2d 739, 746 (Conn. 1997).

"[O]n many occasions we have declined to apply *Frye* when considering expert scientific testimony.... It is clear that we have been moving toward a validity standard for a number of years. We believe that it is time to complete that process, and that 'the *Daubert* [reliability] approach will provide structure and guidance to what has until now been a potentially confusing and sparsely defined area of legal analysis in our state jurisprudence."

5. Delaware

M.G. Bancorporation, Inc. v. Le Beau, 737 A.2d 513, 521, 522 (Del. 1999).

"Since Delaware Rule of Evidence 702 is identical to its federal counterpart, we rely upon the United States Supreme Court's most recent

authoritative interpretation of Federal Rule of Evidence 702 [Daubert].... Although this Court is not bound by the United States Supreme Court's interpretation of comparable federal rules of procedure or evidence, we hereby adopt the holdings of Daubert and Carmichael [v. Kumho Tire] as the correct interpretation of Delaware Rule of Evidence 702."

6. Hawaii

State v. Vliet, 19 P.3d 42, 53, 54 (Haw. 2001).

"[B]ecause the HRE are patterned on the Federal Rules of Evidence (FRE), construction of the federal counterparts of the HRE by the federal courts is instructive [citing *Daubert* and the four *Daubert* factors].... We reaffirm that the touchstones of admissibility for expert testimony under HRE Rule 702 are relevance and reliability."

7. Idaho

State v. Merwin, 962 P.2d 1026, 1030 (Idaho 1998).

"The question under the evidence rule is simply whether the expert's knowledge will assist the trier of fact; not whether the information upon which the expert's opinion is based is commonly agreed upon. Even under the holding in *Daubert*, the focus of the court's inquiry is 'on principles and methodology...."

See also State v. Konechny, 3 P.3d 535, 542-43 (Idaho Ct. App. 2000) ("While the Idaho Supreme Court [in *Merwin*] did not expressly adopt the *Daubert* approach, it followed a similar analytical method and tested the expert testimony based upon factors which tended to show the reliability of the studies that underlay the expert opinion.").

8. Indiana

Malinski v. State, 794 N.E.2d 1071, 1084 (Ind. 2003).

"The concerns driving *Daubert* coincide with the express requirement of Indiana Rule of Evidence 702(b) that the trial court be satisfied of the reliability of the scientific principles involved.' When analyzing Indiana Evidence Rule 702(b), we find *Daubert* helpful, but not controlling." (internal citations omitted).

9. Kentucky

Mitchell v. Commonwealth, 908 S.W.2d 100, 101, 102 (Ky. 1995).

"In 1993, the United States Supreme Court in *Daubert*... analyzed Fed. R. Evid. 702 in relation to *Frye*.... Fed. R. Evid. 702 and KRE 702 contain the same language. The United States Supreme Court held that Fed.R.Evid. 702 supersedes the *Frye* standard. Accordingly, we adopt the standard of review set forth in *Daubert*.... The trial court judge must conduct a preliminary hearing on the matter utilizing the standards set forth in *Daubert*."

10. Louisiana

State v. Foret, 628 So. 2d 1116, 1123 (La. 1993).

"The above-noted similarity between the federal and Louisiana rules on the admission of expert testimony, coupled with similar guidelines for the admissibility of expert scientific testimony pronounced by this court in *Catanese*, persuade this court to adopt *Daubert*'s requirement that expert scientific testimony must rise to a threshold level of reliability in order to be admissible under La.C.E. art. 702. As we find the *Daubert* court's 'observations' on what will help to determine this threshold level of reliability to be an effective guide, we shall adopt these 'observations', as well."

11. Maine

State v. Taylor, 694 A.2d 907, 910 (Me. 1997).

"[Under Maine Rule of Evidence 702], [t]he presiding Justice will be allowed a latitude, which the *Frye* rule denies, to hold admissible in a particular case proffered evidence involving newly ascertained, or applied, scientific principles which have not achieved general acceptance in whatever might be thought to be the applicable scientific community, if a showing has been made which satisfies the Justice that the proffered evidence is sufficiently reliable to be held relevant."" (internal citations omitted).

12. Massachusetts

Commonwealth v. Lanigan, 641 N.E.2d 1342, 1349 (Mass. 1994).

"We accept the basic reasoning of the *Daubert* opinion because it is consistent with our test of demonstrated reliability. We suspect that general acceptance in the relevant scientific community will continue to be the significant, and often the only, issue. We accept the idea, however, that a proponent of scientific opinion evidence may demonstrate the reliability or validity of the underlying scientific theory or process by some other means, that is, without establishing general acceptance."

13. Mississippi

Mississippi Transp. Comm'n v. McLemore, 863 So. 2d 31, 39-40 (Miss. 2004).

"Considering this Court's recent May 29, 2003 adoption of revised Rule 702 with the additional language found in the federal rule, this Court today adopts the federal standards and applies our amended Rule 702 for assessing the reliability and admissibility of expert testimony. . . . With a focus on relevance and reliability, this approach is superior to the "general acceptance" test in Frye, because the Frye test can result in the exclusion of relevant evidence or the admission of unreliable evidence. The gatekeeping function of the trial court is consistent with the underlying goals of relevancy and reliability in the Rules. Daubert ensures that the relevancy requirement of the rules are properly considered in an admissibility decision.... We are confident that our learned trial judges can and will properly assume the role as gatekeeper on questions of admissibility of expert testimony. The modified Daubert test does not require trial judges to become scientists or experts. Every expert discipline has a body of knowledge and research to aid the court in establishing criteria which indicate reliability."

14. Nebraska

Schafersman v. Agland Coop, 631 N.W.2d 862, 874-76 (Neb. 2001).

"[T]he flexibility of the *Daubert* standards has a clear advantage over the *Frye* test, as the rigid application of *Frye* results in evidence which has once met with judicial approval no longer being 'novel,' and thus no longer subject to foundational inquiry Moreover, the flexibility of *Daubert* does not require that the validity of a theory or technique be determined solely by the general acceptance of a particular field that may prove to be too accepting. . . . *Frye*-like tests allow judges to piggyback their decisions onto someone else's judgment of whether the proffered evidence was sufficiently valid to be admitted. . . . We are convinced that by shifting the

focus to the kind of reasoning required in science – empirically supported rational explanation – the *Daubert/Joiner/Kumho Tire Co.* trilogy of cases greatly improves the reliability of the information upon which verdicts and other legal decisions are based. . . . We are persuaded that Nebraska should join the majority of jurisdictions that have already concluded that the *Daubert* standards provide a more effective and just means of evaluating the admissibility of expert opinion testimony."

15. New Hampshire

Baker Valley Lumber, Inc. v. Ingersoll-Rand Co., 813 A.2d 409, 415 (N.H. 2002).

"Although *Daubert* is binding only in federal court, the test of New Hampshire Rule of Evidence 702 is identical to the federal rule at the time of the *Daubert* decision. . . . Among the States that have adopted Rule 702's wording, the vast majority have accepted the *Daubert* standard as their own evidentiary rule. . . . Instead, we recognized that the *Daubert* factors were 'helpful' and used them to fashion a test to determine the reliability of expert testimony concerning repressed memories. . . . Today, we apply the *Daubert* standard to New Hampshire Rule of Evidence 702."

16. New Jersey

Rubanick v. Witco Chem. Corp., 593 A.2d 733, 747-48 (N.J. 1991).

"[W]e hold that in toxic-tort litigation, a scientific theory of causation that has not yet reached general acceptance may be found to be sufficiently reliable if it is based on a sound, adequately-founded scientific methodology involving data and information of the type reasonably relied on by experts in the scientific field."

Kemp v. State, 809 A.2d 77, 86 (N.J. 2002).

"The Rule 104 hearing allows the court to assess whether the expert's opinion is based on scientifically sound reasoning or unsubstantiated personal beliefs couched in scientific terminology. . . . In the course of the Rule 104 hearing, an expert must be able to identify the factual basis for his conclusion, explain his methodology, and demonstrate that both the factual basis and underlying methodology are scientifically reliable."

17. New Mexico

State v. Torres, 976 P.2d 20, 28 (N.M. 1999).

"Following the lead of the United States Supreme Court in *Daubert* . . . this Court has established that it is error to admit expert testimony involving scientific knowledge unless the party offering such testimony first establishes the evidentiary reliability of the scientific knowledge. . . . This evidentiary reliability standard replaced the older, stricter, 'general acceptance' standard, which required the proponent to show that the knowledge was generally accepted by the relevant scientific community. . . [This Court's decision in] *Alberico* therefore established evidentiary reliability as the hallmark for the admissibility of scientific knowledge."

18. Ohio

State v. Hartman, 754 N.E.2d 1150, 1165-66 & n.1 (Ohio 2001).

"We have designated four factors to be considered in evaluating reliability of scientific evidence: '(1) whether the theory or technique has been tested, (2) whether it has been subjected to peer review, (3) whether there is a known or potential rate of error, and (4) whether the methodology has gained general acceptance.' . . . See, also *Daubert*. . . . This court has consistently rejected the *Frye* 'general acceptance' standard."

19. Oklahoma

Christian v. Gray, 65 P.3d 591, 597, 600 (Okla. 2003).

"In *Daubert* the Court observed that the previously used general-acceptance test in *Frye*... for the admissibility of scientific evidence has been displaced by the Federal Rules of Evidence.... Nothing in *Daubert* or *Kumho* conflicts with our Evidence Code. Our Court of Criminal Appeals has already adopted *Daubert* for criminal proceedings in Oklahoma Courts. Today we likewise adopt *Daubert* and *Kumho* for Oklahoma trial courts in deciding the admissibility of expert testimony in civil matters."

20. Oregon

State v. O'Key, 899 P.2d 663, 680 (Or. 1995).

"The decisional process to be applied for admission and exclusion of scientific evidence articulated in *Daubert* is, in our view, an appropriate further development of the decisional process that we first discussed in Brown and followed in *Milbradt*.... Both *Daubert* and *Brown*... view the validity of a particular scientific theory or technique to be the key to admissibility. Both require trial courts to provide a screening function to determine whether the proffered scientific evidence is sufficiently valid to assist the trier of fact.... [A]n Oregon trial court, in performing its vital role as 'gatekeeper' pursuant to OEC 104(1), should, therefore, find *Daubert* instructive."

21. Rhode Island

DiPetrillo v. Dow Chem. Co., 729 A.2d 677, 686 (R.I. 1999).

"Though we declined expressly to adopt the *Daubert I* standard, our previous cases have endorsed its principles. For example, ... our earlier opinion in *Wheeler*... 'is consistent with *Daubert* [1], ... the reasoning and guidelines of which we find helpful and illuminating.""

22. South Carolina

State v. Council, 515 S.E.2d 508, 517, 518 (S.C. 1999).

"[T]his Court has never adopted that [Frye] standard. . . . In considering the admissibility of scientific evidence under the *Jones* standard, the Court looks at several factors, including (1) the publications and peer review of the technique; (2) prior application of the method to the type of evidence involved in the case; (3) the quality control procedures used to ensure reliability; and (4) the consistency of the method with recognized scientific laws and procedures. . . [W]e find the proper analysis for determining admissibility of scientific evidence is now under the SCRE. When admitting scientific evidence under Rule 702, SCRE, . . . the trial judge should apply the *Jones* factors to determine reliability."

23. South Dakota

State v. Corey, 624 N.W.2d 841, 845 n.2 (S.D. 2001).

"[T]he test set forth in *Daubert*... was adopted by this Court in *State v*. *Hofer*, 512 N.W.2d 482 (S.D. 1994). After the adoption of the *Daubert* test, general acceptance in the scientific community no longer is required. ... The trial judge must simply determine 'that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand.""

24. Tennessee

McDaniel v. CSX Transp., Inc., 955 S.W.2d 257, 265 (Tenn. 1997).

"[W]e conclude that Tennessee's adoption of Rules 702 and 703 in 1991 as part of the Rules of Evidence supersede the general acceptance test of *Frye*. In Tennessee, under the recent rules, a trial court must determine whether the evidence will substantially assist the trier of fact to determine a fact in issue and whether the facts and data underlying the evidence indicate a lack of trustworthiness. The rules together necessarily require a determination as to the scientific validity or reliability of the evidence. Simply put, unless the scientific evidence is valid, it will not substantially assist the trier of fact, nor will its underlying facts and data appear to be trustworthy, but there is no requirement in the rule that it be generally accepted."

25. Texas

E.I. du Pont de Nemours and Co. v. Robinson, 923 S.W.2d 549, 556 (Tex. 1995).

"We are persuaded by the reasoning in *Daubert* and *Kelly*. Therefore, we hold that in addition to showing that an expert witness is qualified, Rule 702 also requires the proponent to show that the expert's testimony is relevant to the issues in the case and is based upon a reliable foundation. The trial court is responsible for making the preliminary determination of whether the proffered testimony meets the standards set forth today."

26. Utah

State v. Crosby, 927 P.2d 638, 640, 641 (Utah 1996).

"In *Phillips*, we abandoned exclusive reliance on the 'general acceptance' test of *Frye*... and adopted an 'inherent reliability' standard.... As stated, the court of appeals certified this case for a determination of whether the United States Supreme Court's interpretation of Federal Rule of Evidence 702 in *Daubert* was different from our interpretation of Utah Rule of Evidence 702 in *Rimmasch* and, if so, which standard should apply in Utah. We asked the parties to submit supplemental brief addressing this issue, and each concluded that the standards are, for the most part, similar. We agree."

27. Vermont

USGen New England, Inc. v. Rockingham, 862 A.2d 269, 275-76 (Vt. 2004).

"In Vermont, we adopted the *Daubert* analysis, concluding that because our rules of evidence are 'essentially identical to the federal ones on admissibility of scientific evidence' it makes sense to adopt admissibility principles similar to those used in the federal courts. . . . This decision was typical of the at least thirty state that have done the same, based on similar reasoning. . . . Following *Daubert* and *Kumho Tire*, trial judges must now act as gatekeepers who screen expert testimony ensuring that it is reliable and helpful to the issues at hand before the jury hears it."

28. Virginia

John v. Im, 559 S.E.2d 694, 698 & n.3 (Va. 2002).

"[W]e have not previously considered the question whether the *Daubert* analysis employed by the federal courts should be applied in our trial courts to determine the scientific reliability of expert testimony. Prior to *Daubert*, however, we discussed the trial court's role in making a threshold finding of scientific reliability when unfamiliar scientific evidence is offered."

29. West Virginia

State v. Henning, 569 S.E.2d 204, 208-09 (W.Va. 2002).

"In Wilt v. Buracker, 191 W. Va. 39, 443 S.E.2d 196 (1993), we held that circuit court judges have the discretion and authority under the *Rules of Evidence* to determine whether scientific expert testimony is 'trustworthy, even if the technique involved has not yet won general scientific acclaim.' ... We elaborated on and clarified the admissibility standard for scientific expert testimony in *Gentry*, where we made clear in Syllabus Point 4 that a circuit court can admit scientific expert testimony so long as it is both reliable and relevant: 'When scientific evidence is proffered, a circuit court in its "gatekeeper" role under *Daubert* . . . must engage in a two-part analysis in regard to the expert testimony. First, the circuit court must determine whether the expert testimony reflects scientific knowledge, whether the findings are derived by scientific method, and whether the work product amounts to good science. Second, the circuit court must ensure that the scientific testimony is relevant to the task at hand.'"

30. Wyoming

Reichert v. Phipps, 84 P.3d 353, 356 (Wyo. 2004).

"In *Bunting*, we adopted the *Daubert* analysis and made clear that it applies to the 'opinions of a treating physician based on medical knowledge within the physician's specific area of expertise." . . . In *Bunting*, we adopted *Daubert's* two-part test: first, the trial court is to determine whether the methodology or technique used by the expert is reliable, and second, the trial court must determine whether the proposed testimony 'fits' the particular case."

CONCLUSION

Maryland case law regarding the admissibility of scientific, medical, and technical expert testimony suffers from a lack of clarity concerning the reliability requirement of the Maryland Rules of Evidence. This Court should clarify that the Rules, particularly Rule 5-702, require the trial courts to function as gatekeepers to screen out unreliable expert testimony. This Court should also instruct trial courts to assess reliability based on the Supreme Court's teachings in *Daubert*, thus bringing Maryland in line with the majority of American jurisdictions. Should this Court take these steps, it will greatly enhance the consistency and predictability of decisions concerning the admissibility of putative scientific evidence in Maryland courts and remedy the current standard that can permit both the exclusion of reliable expert testimony and the admission of unreliable expert testimony.

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CERTIFICATE OF SERVICE

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