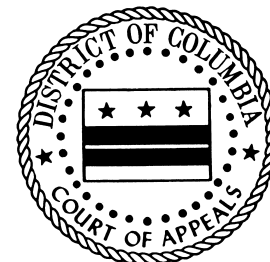


CASE NO. 23-CV-0700

IN THE DISTRICT OF COLUMBIA COURT OF APPEALS



Clerk of the Court
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MICHAEL PATRICK MURRAY, *et al.*,¹

Appellants,

v.

MOTOROLA INC., *et al.*,

Appellees,

ON APPEAL FROM THE SUPERIOR COURT OF
THE DISTRICT OF COLUMBIA CIVIL DIVISION

APPELLANTS' CONSOLIDATED BRIEF ON APPEAL
ORAL ARGUMENT REQUESTED

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¹ This Brief relates to *Murray* and the following twelve related cases (collectively, the "Murray Cases"): *Agro v. Motorola, Inc.*, Case No. 2002 CA 001368 A; *Cochran v. Audiovox Communications Corp.*, Case No. 2002 CA 001369 A; *Schwamb v. Qualcomm, Inc.*, Case No. 2002 CA 001370 A; *Schofield v. Motorola, Inc.*, Case No. 2002 CA 001371 A; *Keller v. Nokia*, Case No. 2002 CA 001372 A; *Marks v. Motorola, Inc.*, Case No. 2010 CA 003206 B; *Kidd v. Motorola, Inc.*, Case No. 2010 CA 007995 B; *Prischman v. Motorola, Inc.*, Case No. 2011 CA 002113 B; *Bocook v. Motorola, Inc.*, Case No. 2011 CA 002453 B; *Brown v. Nokia, Inc.*, Case No. 2011 CA 006710 B; *Solomon v. Motorola, Inc.*, Case No. 2011 CA 008472 B; *Noroski v. Samsung Telecomm America, LLC*, Case No. 2011 CA 008854 B.

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STATEMENT OF ISSUES PRESENTED FOR REVIEW

1. WHETHER THE SUPERIOR COURT CLEARLY ERRED BY DENYING PLAINTIFFS' MOTION FOR ADDITIONAL GENERAL CAUSATION DISCOVERY RELATING TO THE NEW EXPERT ADMISSIBILITY DAUBERT/RULE 702 STANDARD ADOPTED BY THIS COURT IN 2016 AND THE NEW SCIENTIFIC STUDIES PUBLISHED AFTER PLAINTIFFS' GENERAL CAUSATION EXPERTS HAD BEEN ADMITTED UNDER *FRYE/DYAS* THREE YEARS EARLIER.
2. WHETHER THE SUPERIOR COURT CLEARLY ERRED BY STRIKING NEW RELEVANT SCIENTIFIC STUDIES AND OPINIONS FROM THE 2017 SUPPLEMENTAL EXPERT REPORTS OF PLAINTIFFS' GENERAL CAUSATION EXPERTS.
3. WHETHER THE SUPERIOR COURT CLEARLY ERRED BY DENYING PLAINTIFFS' MOTION FOR LEAVE TO ADD GENERAL CAUSATION EXPERTS AFTER THE EXPLOSION OF NEW SCIENTIFIC STUDIES, SUCH AS DR. CHRISTOPHER PORTIER.
4. WHETHER THE SUPERIOR COURT CLEARLY ERRED DURING THE *DAUBERT*/RULE 702 EVIDENTIARY HEARING BY EXCLUDING AND REFUSING TO CONSIDER MUCH OF PLAINTIFFS' GENERAL CAUSATION EXPERTS' REPORTS AND OPINIONS.
5. WHETHER THE SUPERIOR COURT CLEARLY ERRED BY EXCLUDING PLAINTIFFS' EXPERTS UNDER *DAUBERT*/RULE 702 WHICH RESULTED IN THE DISMISSAL OF THESE CASES.
6. WHETHER THE SUMMARY JUDGMENT ORDER DISMISSING THE CASE SHOULD BE REVERSED INASMUCH AS IT IS BASED ON THE CLEARLY ERRONEOUS RULINGS OF THE SUPERIOR COURT.

STATEMENT OF THE CASE AND RELEVANT FACTS

These cases present a critical public health issue involving the adverse health effects of cell phone radiation. Plaintiff/Appellant, Michael Murray, and twelve other Plaintiffs in these thirteen consolidated cases (“Plaintiffs”) have either died or

currently suffer from glioma or acoustic neuroma brain tumors, which Plaintiffs allege were caused by exposure to radiation from cell phones.²

Several of the Murray Cases were filed in the DC Superior Court over 22 years ago and have withstood a barrage of procedural challenges and years of extensive, arduous and ultimately meritless motion practice pursued by Defendants/Appellees (“Defendants”), including Defendants’ improper removal of the cases to federal court, baseless attempts to transfer the cases to a now-defunct MDL, and a series of motions to dismiss which ultimately failed.

On December 7, 2011, after Defendants’ motions to dismiss and preemption motions had been disposed of, the Honorable Judge Franklin Burgess entered an Initial Scheduling Order based on a November 15, 2011 case management hearing bifurcating the proceedings with Phase I focusing on general causation only.³

On February 1, 2013, Plaintiffs filed their Phase I General Causation Expert Witness List including expert reports (“2013 Report”).⁴

² Cell phone radiation is a type of non-ionizing radiation located at the low-energy end of the electromagnetic spectrum. Human exposure and absorption of cell phone radiation can cause biological effects that can result in cancer. Cancer.org

³ Apx., 341 (“Discovery in the [Murray] actions shall be limited to general causation plus certain other discovery may be requested to the extent noted and approved on the record during the November 15, 2011 hearing.”)

⁴ Apx., 1979 (One expert was withdrawn prior to the *Frye/Dyas* hearing.) See, Apx., 1740-1758 (Dr. Mosgoeller); Apx., 1759-1773 (Dr. Plunkett); Apx., 1774-1807 (Dr. Panagopoulos); Apx., 1808-1837 (Dr. Liboff); Apx., 1838-1866 (Dr. Kundi); Apx., 1867-1978 (Dr. Belyaev).

General causation discovery proceeded, wholly based on the *Frye/Dyas* standard and motion practice which looked to general acceptance of methodology, only. In September 2013, Defendants moved to exclude Plaintiffs' general causation experts under *Dyas v. United States*, 376 A.2d 827 (D.C. 1977).

A *Frye/Dyas* evidentiary hearing was conducted over 4 weeks beginning December 2, 2013, Judge Frederick Weisberg presiding. At the hearing, Plaintiffs' general causation experts testified and were cross-examined based upon *Frye/Dyas* and its "general acceptance" framework, and in March 2014 the parties submitted voluminous post-closing briefs based on the *Frye/Dyas* standard.⁵

On August 8, 2014, Judge Weisberg issued a 76-page *Frye/Dyas* opinion finding that 5 of Plaintiffs' general causation experts passed the *Frye/Dyas* admissibility standard, and that each expert had used generally accepted methodologies in forming their opinions.⁶ Judge Weisberg also noted the potentially urgent need for immediate action regarding cell phone radiation: "If there is even a reasonable possibility that cell phone radiation is carcinogenic, the time for action in the public health and regulatory sectors is upon us."⁷

Defendants petitioned this Court to change the expert admissibility standard in DC, which Plaintiffs opposed due to the prejudice Plaintiffs would suffer after

⁵ See, Pls.' *Frye/Dyas* Post-Hearing Memorandum (Mar. 21, 2014).

⁶ Apx., 491.

⁷ Apx., 516.

operating under the *Frye/Dyas* standard since the 2001 inception of the Murray Cases. This Court granted Defendants’ petition in 2016 and changed the standard in DC to *Daubert*/Rule 702,⁸ noting that Plaintiffs would receive protections on remand “in order to prevent prejudice and unfairness to Plaintiffs.”⁹

After remand, Plaintiffs filed a Motion for Additional Discovery in light of the change of the evidentiary standard, seeking to have all prior expert opinions and reports reissued, add new scientific general causation experts, address new science and the new standard, and conduct discovery under the new standard. On March 16, 2017, Judge Weisberg issued an Order and revisited Judge Burgess’s Initial Scheduling Order, denying Plaintiffs’ requests for new experts and additional discovery, but permitting supplemental expert reports taking into account the new standard and new scientific studies occurring from 2013 to 2017. Judge Weisberg stated that “Phase I experts should be permitted to factor into their opinions any intervening reliable experiments, case studies, and peer reviewed publications” given the advancements in science in those 4 years; specifically permitting supplemental expert reports:

(1) addressing any relevant studies or peer reviewed publications that have been added to the scientific literature since February 2013, and (2) revising the way they express their opinions to account for the change in the evidentiary standard from *Dyas/Frye* to Federal Rule 702, provided they

⁸ Apx., 3390.

⁹ Apx., 758; Appx., 3399-3400.

explain why the change in the evidentiary standard necessitates a change in the way they articulate their opinion.¹⁰

Judge Weisberg opined in footnote 3 of the Discovery Order that “one or more of Plaintiffs’ expert witnesses on general causation who had been excluded under the *Dyas/Frye* standard might yet qualify under the new Rule 702 standard,” clarifying in an April 4, 2017 Order that footnote 3 referred to:

Plaintiffs’ expert witnesses whose testimony was excluded solely under the *Dyas/Frye* standard...even though the court concluded that their methodologies are not generally accepted [under *Frye/Dyas*], it is conceivable that their principles and methods are nonetheless reliable and reliably applied to the facts of these cases.¹¹

Plaintiffs submitted supplemental general causation expert reports in 2017 (“2017 Supplemental Reports”) addressing the new standard and taking into account the evolving scientific research and studies.¹²

Defendants sought to strike significant portions of Plaintiffs’ 2017 Supplemental Reports, arguing that such portions were somehow “unauthorized” by Judge Weisberg’s March 16, 2017 Order, and on August 28, 2018 Judge Anita Josey-Herring, who had rotated on to the Murray Cases, granted the motion in large part, striking scientific opinions, entire sections and numerous peer reviewed

¹⁰ Apx., 575-576.

¹¹ Apx., 578. Dr. Panagopoulos was permitted to supplement his opinions and reports under *Daubert* standard. His testimony had been excluded under the *Frye/Dyas* standard because his exposure methodology was deemed novel in 2014.

¹² See, Apx. 3405-3457 (Dr. Plunkett); Apx., 3458-3518 (Dr. Mosgoeller); Apx., 3519-3779 (Dr. Belyaev); 3780-3848 (Dr. Panagopoulos); Apx., 3849-3886 (Dr. Liboff); Apx., 3887-3973 (Dr. Kundi).

scientific studies.¹³ Judge Josey-Herring explained that the “supplementation [ordered by Judge Weisberg] was not intended to permit Plaintiffs to elicit new opinions not previously raised” even if the opinions were formed in light of the new and evolving scientific research and studies.¹⁴ Plaintiffs unsuccessfully sought reconsideration of the Strike Order.¹⁵

Throughout 2018 and 2019, the parties conducted depositions of the general causation experts and briefed Defendants’ Motion to Exclude Plaintiffs’ experts under *Daubert*/Rule 702. Due to the explosion of scientific research relevant to cell phone radiation health effects during the 8 year span since the *Frye/Dyas* proceedings, Plaintiffs sought to add another general causation expert, Dr. Christopher Portier, B.S., M.S., Ph.D., after he authored a March 1, 2021 Expert Report due to his newly formed expert opinions regarding RF exposure based on very recent scientific research and studies.¹⁶ The Honorable Judge Alfred S. Irving, Jr., who had rotated on to the Murray Cases, refused to allow Plaintiffs to add Dr. Portier, or any new experts or new opinions not listed or disclosed in 2013, even if the new opinions were formed on the basis of the scientific research and studies during the 8 year span after the *Frye/Dyas* proceedings, in light of the February 1,

¹³ Apx. 585-645; GX1853, GX1744, GX1661, GX2030, GX1984. *See also*, Apx., 871-914, 959-996, 1230-1268, 782-865.

¹⁴ Apx., 592.

¹⁵ Mo. for Reconsideration (Oct. 12, 2018); Apx., 652-651 (Order, July 3, 2019).

¹⁶ Apx., 4255.

2013 deadline for naming general causation expert witnesses.¹⁷ Judge Irving also found that “allowing Dr. Portier’s testimony 4 months before the *Daubert* hearing is scheduled to begin would disrupt the existing schedule and detrimentally affect the orderliness and efficiency of any trial.”¹⁸ In January 2022, Plaintiffs renewed their motion after the *Daubert* hearing was delayed until September 2022 amidst continuing scientific advances, but, Judge Irving again denied the request.¹⁹

Nineteen months after Plaintiffs filed their motion to add Dr. Portier, the *Daubert* hearing took place for 3 weeks in September 2022. Judge Irving held Plaintiffs’ general causation experts to their heavily stricken supplemental expert reports and scientific opinions based on Judge Josey-Herring’s Strike Order.²⁰

On April 25, 2023 Judge Irving entered an Order excluding Plaintiffs’ general causation experts under *Daubert*/Rule 702, finding that at least one of the qualifying admissibility prongs was not met for each expert.²¹ In light of the ruling, summary judgment and dismissal was entered on August 1, 2023, with all appellate rights preserved.²²

STANDARD OF REVIEW

Plaintiffs appeal the August 1, 2023 Order granting summary judgment in

¹⁷ Apx., 686-687.

¹⁸ Apx., 687.

¹⁹ Apx., 700-703.

²⁰ Apx., 731-1283.

²¹ Apx., 1284.

²² Apx., 1362 (Preserving appellate rights).

favor of Defendants as to all Murray claims, as well as the underlying orders upon which the August 1, 2023 Final Judgment Order was based:

- April 25, 2023 Order, granting Defendants’ Motion to Exclude Plaintiffs’ Expert Testimony
- Denials of Plaintiffs’ requests for consideration of entire expert reports during September 2022 Daubert hearing
- January 6, 2022 Oral Order denying Plaintiff’s Oral Motion to Add Additional Expert Witness
- April 21, 2021 Order Denying Plaintiffs’ Motion for Leave to Add a General Causation Expert to Phase I of Discovery
- July 3, 2019 Order, granting in part, Defendants’ request to strike certain sections and studies included in Dr. Belyaev’s 2017 Supplemental Report
- July 3, 2019 Order, denying Plaintiffs’ Motion for Reconsideration
- November 14, 2018 Order, maintaining original decision striking portions of Dr. Mosgoeller’s 2017 Supplemental Report
- August 28, 2018 Superseding Amended Order, granting Defendants’ September 1, 2017 Motion to Strike
- March 16, 2017 Order Denying Plaintiffs’ Motion for Additional Discovery

This Court reviews the grant of summary judgment *de novo*, applying the same standard used by the trial court to ensure that there is no genuine issue of material fact and that the prevailing parties are entitled to judgment as a matter of law.²³ In ascertaining whether any material facts are in dispute, the Court conducts an independent review of the entire record and any reasonable inferences therefrom

²³ *Robinson v. Samuel C Boyd & Son, Inc.*, 822 A.2d 1093, 1101-2 (D.C. 2003); *citing; Colbert v. G.U.*, 641 A.2d 469, 472 (D.C. 1994). *Propp v. Counterpart Int’l*, 39 A.3d 856, 871 (D.C. 2012); *Aziken v. D.C.*, 194 A.3d 31, 34 (2018).

in the light most favorable to the party opposing the motion.²⁴ Summary judgment is appropriate only if “there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.”²⁵ This Court is required to “conduct an independent review of the record...[to] determine whether any relevant factual issues exist by examining and taking into account the pleadings, depositions and admissions along with any affidavits on file, construing such material in the light most favorable to the party opposing the motion.”²⁶

The Court reviews the remaining rulings on appeal for abuse of discretion, reversing when the trial court’s exercise of discretion is clearly erroneous.²⁷ The appellate review “broadly defer[s] to the trial court due to its ‘familiarity with the

²⁴ *Ferrell v. Rosenbaum*, 691 A.2d 641, 646 (D.C. 1997); *Redshift, LLC v. Shaw*, 264 A.3d 1182, 1187 (D.C. 2021); *District of Columbia v. D.C. Pub. Serv. Comm.*, 963 A.2d 1144, 1155 (D.C. 2009); *Bailey v. D.C.*, 668 A.2d 817, 819 (D.C. 1995).

²⁵ Super. Ct. Civ. R. 56(a)(1).

²⁶ *District of Columbia*, 963 A.2d at 1155 (quoting; *Graff v. Malawer*, 592 A.2d 1038, 1040 (D.C. 1991)).

²⁷ *Haidak v. Corso*, 841 A.2d 316 (D.C. 2004); citing; *District of Columbia v. Anderson*, 597 A.2d 1295, 1299 (D.C. 1991) (admission or exclusion of expert testimony is reviewed for abuse of discretion.) *Parker v. U.S.*, 249 A.3d 388, 401 (D.C. 2018); citing; *Kozlovska v. U.S.*, 30 A.3d 799, 801 (D.C. 2011). (evidentiary rulings are reviewed for clearly erroneous abuse of discretion). *Girardot v. U.S.*, 92 A.3d 1107, 1109 (D.C. 2014). See also, *Govan v. Brown*, 228 A.3d 142, 155 (D.C. 2020); citing; *Jackson v. George*, 146 A.3d 405, 420 (D.C. 2016) (decision to admit evidence is reviewed for abuse of discretion.) *Pietrangelo v. Wilmer Cutler Pickering Hale & Dorr, LLP*, 68 A.3d 697, 716 (D.C. 2013); citing; *Futrell v. Dep’t of Labor Fed. Cred. Un.*, 816 A.2d 793, 809 (D.C. 2003) (discovery rulings are reviewed for abuse of discretion.) See also, *Eason v. U.S.*, 687 A.2d 922, 925 (D.C. 1996), *aff’d in pertinent part*, 704 A.2d 284, 285 (D.C. 1997) (*en banc*) (*per curiam*); *Coates v. U.S.*, 558 A.2d 1148, 1152 (D.C. 1989).

details of the case and its greater experience in evidentiary matters.”²⁸

Daubert/Rule 702 focuses on methodology and the “application of that methodology in a particular case,” requiring determinations “whether the reasoning or methodology underlying the testimony is scientifically valid” and “the expert has reliably applied the principles and methods to the facts of the case.”²⁹ While general acceptance “can yet have a bearing on the inquiry,” *Daubert* “relaxed traditional barriers to opinion testimony” by removing the rigid general acceptance requirement, instead requiring the trial judge to ensure that scientific testimony or evidence admitted is relevant and reliable.³⁰ As this Court explained, “properly performing the gatekeeping function will require a delicate touch,” and the “goal is to deny admission to expert testimony that is not reliable, but to admit competing theories if they are derived from reliable principles that have been reasonably applied.”³¹ “When a trial court, applying [Rule 702], rules that an expert’s testimony is reliable, this does not necessarily mean that contradictory expert testimony is unreliable. [Rule 702] is broad enough to permit testimony that is the

²⁸ *Johnson v. U.S.*, 960 A.2d 281, 294 (D.C. 2008); quoting; *Sprint/United Mgmt. Co. v. Mendelsohn*, 552 U.S. 379, 384 (2008).

²⁹ Apx., 3396-3397 (*Motorola Inc. v. Murray*, 147 A.3d 751, 754 (D.C. 2016) (en banc)).

³⁰ Apx., 3396-3397, 3399-3400 (*Murray*, 147 A.3d at 754, 758; citing; *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 587, 594 (1993)).

³¹ Apx., 3398-3399 (*Murray*, 147 A.3d at 757).

product of competing principles or methods in the same field of expertise.”³² This Court also stresses that minority status is not a proxy for unreliability; rather, the trial court must decide “whether the opinion is the product of reliable principles and methods...reasonably applied.”³³ The reliability inquiry is flexible and focuses “solely on principles and methodology, not on the conclusions that they generate,” with proper review calling for “vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof.”³⁴ Further, the inquiry differs based on the discipline of the expert, ranging from peer review literature, the expert’s own studies, personal knowledge or experience.³⁵

SUMMARY OF ARGUMENT

After the Murray Cases were fully litigated under the *Frye/Dyas* evidentiary standard with 5 general causation scientific experts passing, this Court retroactively changed the expert admissibility standard to *Daubert*/Rule 702. When the Order was issued, this Court made clear that protections would be afforded to safeguard Plaintiffs against prejudice upon remand and the application of the new

³² Apx., 3398-3400 (*Murray*, 147 A.3d at 757. *Townsend v. D.C.*, 183 A.3d 727, n.10 (D.C. 2018); *Williams*, 2019 D.C. App. LEXIS 247, 15-16; Rule 702 advisory committee notes to 2000 amendments; Apx., 514-515, 550, N.54 (Competent epidemiologists using same methodology can reach opposite causation conclusions).

³³ Apx., 3398-3400 (*Murray*, 147 A.3d at 757-758).

³⁴ Apx., 3396-3397 (*Murray*, 147 A.3d at 754 (D.C. 2016); *citing*; *Daubert*, 509 U.S. at 595-596).

³⁵ *See Kumho Tire v. Carmichael*, 526 U.S. 137, 142 (1999).

standard, and directed the Superior Court to afford whatever discovery was needed “in order to prevent prejudice and unfairness to Plaintiffs” and address the new standard and evolving science. The Superior Court ignored this Court’s direction, and instead denied new discovery, held Plaintiffs to the February 1, 2013 deadline for naming experts and submitting expert reports despite the years that had passed with an avalanche of new scientific studies, and refused to allow Plaintiffs to add experts who only recently formed opinions based on the new science. Further, the Superior Court refused to allow Plaintiffs’ general causation experts to modify or add opinions based on the new scientific research and studies, and refused to allow Plaintiffs’ experts to cite or address any pre-2013 studies that were not cited in their 2013 Reports—even if those studies factored into the new evidentiary standard, but did not factor into the old standard or led to the formation of a new or modified opinion when combined with new scientific studies that post-dated 2013. The Superior Court gutted the 2017 Supplemental Reports and opinions of Plaintiffs’ general causation experts, excluded each expert under the *Daubert* Rule 702 standard based on their gutted reports and opinions, and then dismissed the entire Murray Cases based on the exclusion of the general causation experts. Each such ruling was clearly erroneous, an abuse of discretion and manifestly unjust, severely prejudicing Plaintiffs by essentially holding them to the science as it existed in 2013 and preventing Plaintiffs from accessing the full body of scientific

evidence which has significantly evolved throughout the 23 years of the Murray Cases and particularly in the last decade.

ARGUMENT

I. THE SUPERIOR COURT’S MARCH 16, 2017, APRIL 21, 2021 AND JANUARY 6, 2022 RULINGS PROHIBITING PLAINTIFFS FROM CONDUCTING DISCOVERY AFTER REMAND AND ADDING NEW GENERAL CAUSATION EXPERTS ARE CLEARLY ERRONEOUS.

A. The Superior Court’s March 16, 2017 Rulings are Clearly Erroneous

Upon remand to the Superior Court for *Daubert*/Rule 702 proceedings, Plaintiffs requested on January 17, 2017 to:

(i) Have the opportunity to reissue all prior expert opinions and reports based on the voluminous new science and to address the new expert standard;

(ii) Proffer additional experts to address new science and studies under the new standard, including experts in key general causation disciplines critical to *Daubert*/Rule 702 reliability; and

(iii) Obtain broader general causation discovery crucial to assessing the reliability of both sides’ expert opinions under the new standard, consisting of internal company documents and conduct discovery.³⁶

Judge Weisberg permitted Plaintiffs’ general causation experts to submit supplemental expert reports to account for the new standard and new scientific research occurring from February 2013 to March 2017,³⁷ but erroneously denied Plaintiffs’ requests for new experts and additional discovery because Judge Burgess’ prior case management orders in 2013 purportedly required “a complete

³⁶ Apx., 3295-3301; Motion for Additional Discovery (Jan. 17, 2017).

³⁷ Apx., 570-579.

statement of all opinions” without reference to admissibility standards.³⁸ This was clearly incorrect inasmuch as Judge Burgess was clear at the case management hearing in directing general causation expert reports and depositions to “put *Daubert* aside” and strictly focus on the *Frye/Dyas* general acceptance standard and specifically the existence of “a consensus among the scientific community.”³⁹ Judge Burgess denied Plaintiffs’ requests for general causation and reliability discovery in 2012 in light of the narrow *Frye/Dyas* focus on general acceptance of methodology.⁴⁰ In addition, there was an avalanche of new scientific research and studies that had been published after 2013 from which additional scientists had formed new or modified opinions and should have been allowed to serve as experts. Furthermore, prior discovery in the Murray Cases had been solely governed by the narrow *Frye/Dyas* standard regarding general acceptance, and it was clear error to prohibit the broader degree of general causation discovery necessary to assess the experts and studies under the significantly broader reliability standards of *Daubert*/Rule 702, particularly in light of this Court’s directive that Plaintiffs be afforded whatever discovery was needed “in order to prevent prejudice and unfairness to Plaintiffs” and address the new standard and

³⁸ Apx., 574.

³⁹ Apx., 1683, 1693, 1694, 1700, 1701, 1708-1712, 1715, 1717, 1721, 1724.

⁴⁰ Apx., 486-490.

evolving science.⁴¹ There was no timing issue because the Murray Cases had been remanded for a redo of Phase I general causation, which had taken years to litigate under *Frye/Dyas* and there was no trial date set nor schedule for the additional phases of the cases.

Broad general causation discovery has been permitted in bifurcated and other mass tort cases, and courts have held that an expert's general causation opinion need not rely solely on scientific literature. Rather, general causation inquiry into internal company documents, correspondence, warning labels and other "conduct discovery" has been deemed highly important to the reliability of an experts' opinion and expressly permitted. For example, extremely broad general causation discovery was granted in a mass toxic tort case, including scientific study funding relevant to possible bias⁴² as well as all categories denied to Plaintiffs by Judge Weisberg. Indeed, peer-reviewed published scientific literature has found that results of scientific studies are drastically skewed toward the funding source when funded by a wealthy industry, such as the cell phone industry.⁴³

⁴¹ Apx., 758; Appx., 3399-3400.

⁴² *In re Welding Fume Products Liability Litig.*, 2010 U.S. Dist. LEXIS 146067 (N.D. Ohio 2010) at 422-23.

⁴³ *See, e.g.*, Huss, et al., (2007) (Studies funded by cell phone industry substantially less likely to report statistically significant exposure effects); Karipidis, et al. (2018) (government funded study has significant design flaw by excluding largest segment of brain tumor population (60 years or up at diagnosis time). Prasad et al (2017) (Studies conducted by government or phone industry are lower quality and consistently trend towards lower risk and protection of cell phone brain tumors.)

In another example, broad general causation discovery was permitted, including records from 50 Bayer custodians, all adverse-events reports from Bayer’s own database and analyses sent to regulators.⁴⁴ Likewise, in another mass tort case, discovery included scientific studies, adverse event reports, “a plethora of internal Pfizer documents including discussions among Pfizer’s own epidemiologists and other scientists analyzing certain epidemiological studies,” draft product documents and product warning labels.⁴⁵

Likewise, *In re E. I. du Pont de Nemours & Co. C-8 Personal Injury Litig.* is instructive where the court confirmed the importance of the entire historical record in a *Daubert* challenge, including internal company documents; as is *Deutsch* where plaintiffs’ admitted expert opinions were largely reliant on defendants’ internal documents, warnings labels and corporate conduct.⁴⁶

B. The Superior Court’s April 21, 2021 and January 6, 2022 Rulings Denying Plaintiff’s Request to Add a General Causation Expert to Phase I of Discovery Were Clearly Erroneous.

Four years after Judge Weisberg denied Plaintiffs’ requests for expanded reliability based general causation discovery and new experts, Dr. Portier formed a

⁴⁴ *In re Mirena IUS Levonorgesrel-Related Prods. Liab. Litig. (No. II)*, 387 F. Supp. 3d 323 (SDNY 2019).

⁴⁵ *In re Zolofit Sertraline Hydrochloride Prods. Liab. Litig.*, 176 F. Supp. 3d 483 (E.D. Pa. 2016).

⁴⁶ *In re E. I. du Pont de Nemours & Co. C-8 Personal Injury Litig.* 2016 U.S. Dist. LEXIS 19880 (S.D. Ohio 2016); *Deutsch v. Novartis Pharms. Corp.*, 768 F. Supp. 2d 420 (E.D. NY 2011).

new opinion that RF exposure is a highly probable cause of gliomas and neuromas in March 2021 based on of the explosion of relevant new scientific research and studies.⁴⁷ Given his stature as an internationally renowned scientist and expert in design, analysis and interpretation of environmental health data and carcinogenicity research, environmental hazard and cancer risk assessment, epidemiology, toxicology and biostatistics, Plaintiffs proffered Dr. Portier’s expert report and sought to add him as an expert.⁴⁸ On April 21, 2021 Judge Irving erroneously denied the request to add Dr. Portier, or any other new experts or newly formed opinions not listed or disclosed by the February 1, 2013 deadline for naming general causation expert witnesses.⁴⁹ Judge Irving found that “allowing Dr. Portier’s testimony 4 months before the *Daubert* hearing is scheduled to begin would disrupt the existing schedule and detrimentally affect the orderliness and efficiency of any trial.”⁵⁰ Judge Irving did not question that “Dr. Portier is well-qualified to render expert opinions with regard to the important public health matters at issue in these cases,” but ruled that “allowing Dr. Portier to present expert testimony would expand the scope of Phase I discovery in contravention of prior-well reasoned court rulings” and “greatly prejudice” Defendants.⁵¹ In January

⁴⁷ Apx., 4255-4430.

⁴⁸ Motion for Leave to Amend (Mar. 3, 2021).

⁴⁹ Apx., 686; Apx., 700-703.

⁵⁰ Apx., 687.

⁵¹ Apx., 687.

2022, Plaintiffs renewed their motion after the *Daubert* hearing had been delayed until September 2022 amidst continuing scientific advances, but, Judge Irving again denied the request.⁵²

This Court in *Tisdale v. Howard Univ.*, 697 A.2d 53, 54 (D.C. 1997) (*citing*; *Abel v. Wang*, 697 A.2d 796) (D.C. 1997), held that in considering a motion for leave to file a Rule 26(b)(4) statement out of time, the Court should consider the “totality of the circumstances of each case” under the *Abel* factors,⁵³ with greater weight afforded to whether “prejudice [would be] caused by delay to the overall administration of justice.”⁵⁴ Given the explosion of new scientific research and studies since experts were named in 2013, the 2016 change to the reliability focused *Daubert*/Rule 702 standard and the delay of the *Daubert* hearing to late 2022, the totality of the circumstances overwhelmingly favored allowing Plaintiffs to add Dr. Portier as an expert. The overall administration of justice would be served where his new and important expert opinions are based on the body of scientific evidence including very recent research in a continually evolving

⁵² Apx., 700-703.

⁵³ The factors include (i) Whether allowing the evidence would incurably surprise or prejudice the opposing party; (ii) Whether excluding the evidence would incurably prejudice the party seeking to introduce it; (iii) Whether the party seeking to introduce the testimony failed to comply with the evidentiary rules inadvertently or willfully; (iv) The impact of allowing the proposed testimony on the orderliness and efficiency of the trial; and (v) The impact of excluding the proposed testimony of information before the court or jury.

⁵⁴ *French v. Levitt*, 997 A.2d 701 (2010). *See also*, *Dada v. Children's Nat'l Med. Ctr.*, 715 A.2d 904, 910 (D.C. 1998).

scientific landscape, and where he contributes highly relevant and material expertise regarding study design, methodology and the extent of the data's relevance to a link between cell phone radiation and cancer, glioma and acoustic neuroma.⁵⁵ Dr. Portier analyzed laboratory studies and data regarding cancer and mechanisms, concluding with high confidence that RF can cause tumors in animals with strong findings for gliomas and heart Schwannomas.⁵⁶ He examined biological plausibility, analyzing each Bradford Hill causality aspect collectively with current epidemiology and meta-analyses including the latest scientific research, ultimately opining "given the human, animal and experimental evidence" "to a reasonable degree of scientific certainty the probability that RF exposure causes gliomas and neuromas is high."⁵⁷ Precluding Dr. Portier was clear error and severely prejudiced Plaintiffs and ultimately resulted in incomplete epidemiology and incidence opinions, especially given the Superior Court's prior strike rulings where Dr. Porter would have presented additional epidemiology and incidence opinions, including his conclusion the epidemiological evidence supports a strong association between cell phone use and the risk of glioma and acoustic neuroma. Dr. Portier's 2021 Expert Report cited 444 scientific studies, 92 of which were published between 2017 and 2021, and had Dr. Portier been admitted as an expert

⁵⁵ Apx., 4259-4261, 4400-4430.

⁵⁶ Apx., 4340-4342.

⁵⁷ Apx., 4363, 4365.

he could have supplemented his Report with studies after March 2021.

Defendants could not have been prejudiced if Dr. Portier was added inasmuch as no trial date had been set, no fact discovery had occurred, and the *Daubert* hearing did not begin until 19 months after Plaintiffs' 2021 motion and 8 months after their 2022 renewed request. Even a 4-month window would have provided Defendants more than ample time to depose Dr. Portier and include Dr. Portier in the *Daubert* hearing or a separate later hearing if desired. In fact, the Court Rules not only allow, but require, supplementation of expert reports, as is routinely allowed in far shorter periods than 4 months – particularly when the evidence is important.⁵⁸

⁵⁸ *French*, 997 A.2d 701; *Dada*, 715 A.2d at 910; *Weiner v. Kneller*, 557 A.2d 1306, 1312 (D.C. 1989). Super. Ct. Civ. R 26(a)(2)(B), 26(E)(1) & (2) (party must timely supplement/correct expert disclosure if learns disclosure is incomplete or incorrect in material respect and the information has not been otherwise given to the other parties.); *Ferrell*, 691 A.2d at 647 (abuse of discretion to not allow new expert testimony proffered on final day of discovery); *Daniels v. Beeks*, 532 A.2d 125, 128 (D.C. 1987) (abuse of discretion to deny motion to amend pretrial order one month before trial seeking to add new expert, especially where no prejudice to other party due to ample time to obtain discovery); (supplemental opinions are not to be excluded in absence of credible prejudice to opposing party, particularly when opinion caused by new and important information); *Pomona v. SQM N. Am. Corp.*, 866 F.3d 1060 (9th Cir. 2017) (abuse of discretion to illogically apply legal standard in refusing to allow key forensic expert to update expert report two months before trial to reflect scientific developments during 3-year pendency of earlier appeal); *Russell v. Call/D, LLC*, 122 A.3d 860, 864-865 (D.C. 2015) [unreasonably delayed supplementation of immaterial information not permitted four days before hearing]; *ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254, 298 (3rd Cir. 2012) (exclusion is ‘grave step’ not to be taken lightly;” with “importance of the evidence [o]ften the most significant factor;” *citing*; *Sowell v. Butcher &*

II. THE SUPERIOR COURT'S RULINGS STRIKING PLAINTIFFS' EXPERT OPINIONS AND TESTIMONY ARE CLEARLY ERRONEOUS.

Judge Weisberg mandated in 2014 that Plaintiffs not be prejudiced by the application of a new evidentiary standard and specifically confirmed that if this Court decided to change the standard it could “allow whatever additional discovery might be necessary to place Plaintiffs in a fair position to litigate that issue.”⁵⁹ Two years later, this Court changed the standard, expressly directing the Superior Court to afford Plaintiffs whatever discovery was needed “in order to prevent prejudice and unfairness to Plaintiffs” and address the new standard and evolving science.⁶⁰ Mindful that only qualifications and general acceptance of methodology was at issue in the *Frye/Dyas* proceeding, Judge Weisberg allowed Plaintiffs’ experts to supplement their opinions to address the new standard and the evolving science—even if it changed their opinions.⁶¹ Specifically, Judge Weisberg permitted the experts to “produce supplemental reports addressing any relevant studies or peer reviewed publications that have been added to the scientific literature since February 2013.” As Judge Weisberg acknowledged, incorporation of new studies contemplates the transformation of certain opinions as warranted by changes to the

Singer, Inc., 926 F.2d 289, 302 (3d Cir. 1991)]; *Meyers v. Pennypack Woods Home Own. Ass'n*, 559 F.2d 894, 904-905 (3d Cir. 1977) (assesses “how important the [excluded] testimony might have been and how critical its absence”).

⁵⁹ Apx., 567.

⁶⁰ Apx., 758. 3399-3400.

⁶¹ Apx., 576.

scientific landscape after the experts' January 2013 Expert Reports.⁶² This Court also recognized the experts' right to supplement their reports with pre-February 2013 scientific studies, explaining that certain existing studies may have been omitted from the 2013 Reports as within a "distinct minority" or not generally accepted, yet appropriate under *Daubert* as "the product of reliable principles and methods reasonably applied" where "minority status is not a proxy for unreliability."⁶³ ⁶⁴ Judge Weisberg's Order also permitted Plaintiffs' experts to "revis[e] the way they express their opinions to account for the change in the evidentiary standard."⁶⁵

Plaintiffs' experts' 2017 Supplemental Reports addressed the substantial number of replications of prior research and thousands of new scientific studies

⁶² Apx., 3367 ("Right. If there's new information they can say, I now know what I didn't know then, and I think that's important to my opinion. It reinforces my opinion, or it causes me to change one aspect of my opinion that I thought I could say, but I can no longer say.")

⁶³ Apx., 3398-3400 [*Murray*, 147 A.3d at 757-758]; *citing*; FRE 702(c),(d).

⁶⁴ Indeed, given the 2013 scientific picture, Plaintiffs' experts determined that discussing certain existing studies or topics was unwarranted because of inconclusive or premature science. Years later, the study or topic had developed due to evolving scientific research. Likewise, under the limited *Frye/Dyas* general acceptance standard in effect in 2013, it was unnecessary or impertinent to mention certain existing studies. Yet, these very studies became essential to address under the broader *Daubert*/Rule 702 reliability factors. In fact, while possible to satisfy *Frye/Dyas* with a single generally accepted study, additional support through multiple reliable studies can be vital to show reliability under the current standard. Indeed, this Court explicitly recognized this right. Apx., 3398-3400; [*Murray*, 147 A.3d at 757-758; *citing*; Fed. R. Evid. 702(c),(d).

⁶⁵ Apx., 576; Apx., 580.

since their 2013 Reports, and supplemented their opinions and expression thereof to account for the evolving scientific research and studies, and evidentiary standard change. Each expert's updated opinions were stronger based on new scientific evidence which further reinforced the reliability of the experts' principles and methodology, especially when coupled with older studies which now held even more weight due to many recent corroborating studies. Additionally, the new scientific studies published after the 2013 Reports enabled some of Plaintiffs' experts to form additional opinions.⁶⁶

Defendants moved to strike a vast portion of Plaintiffs' 2017 Reports, which Judge Josey-Herring erroneously granted, misapplying Judge Weisberg's decision and ignoring this Court's directive.⁶⁷ Judge Josey-Herring reasoned that Judge Burgess' 2011 Case Management Order called for the experts' complete opinions and did not refer to evidentiary standard. This was clear error because Judge

⁶⁶ Apx., 3850 (Dr. Liboff's "statement is based on the many recent research reports, observations and hypothetical explanatory models that have been added to the literature since his January 2013 Expert Report"); Apx., 4212, 4216 [Liboff *de bene esse* Dep., 21:22-22, 100:21-101:23 (Jan. 9, 2019)] (issue of electromagnetic effects "a situation in flux;" "practically revolutionary" difference in state of the science from 2013 to 2017); Apx. 3459; Apx., 4208 [Mosgoeller Dep., 384:8-385:4 (Dec. 11, 2018)] (supplemental opinions reflect 2013 – 2017 developments); Apx., 4204 [Panagopoulos Dep., 208:25-209:10 (Nov. 29, 2018)] (2017 Report includes evolved science); Apx., 3406 (Dr. Plunkett: "important new animal and mechanistic data related to the safety of non-ionizing radiation emitted from cell phones"); Apx., 4197 [Belyaev Dep., 901:2-903:13 (Nov. 6, 2018)] (new science informs his opinions regarding cancer).

⁶⁷ Apx., 606, 631, 635-636, 644; Apx., 662-663, 679-680.

Burgess had directed the expert reports and depositions to “put *Daubert* aside” and solely focus on the *Frye/Dyas* general acceptance standard.”⁶⁸

Scientific research can evolve during the pendency of a case, especially in cases involving current public health issues that are subject to heavy and ongoing scientific research, like these cases pending for over 20 years. Rule 26(a)(2)(B) specifically “contemplates that the expert will supplement, elaborate upon, explain and subject himself to cross-examination upon his report.”⁶⁹ Supplemental opinions are not to be excluded by the court in the absence of credible prejudice to the opposing party, particularly in the face of new and important information.⁷⁰ It is well settled that exclusion of evidence is a “grave step not to be taken lightly;” with “the importance of the evidence [o]ften the most significant factor.”⁷¹ Here, the importance of post-February 2013 scientific research and studies cannot be overstated. The 400 published post-February 2013 scientific studies cited in

⁶⁸ Apx., 1683, 1693, 1694, 1700-1701, 1708-1712, 1715, 1717, 1721, 1724.

⁶⁹ *Thompson v. Doane Pet Care Co.*, 470 F.3d 1201, 1203 (6th Cir. 2006) [regarding identical Fed. Civ. R. 26(a)(2)(b). See, SCR-Civ. R. 26(E)(2)].

⁷⁰ *Ferrell*, 691 A.2d at 647 (supplementation of expert opinion permitted due to new and important information); *Daniels*, 532 A.2d at 128 (abuse of discretion to deny supplemental expert testimony caused by new information where appellant would suffer harm by exclusion, and appellee had adequate time to meet the new testimony); *Pomona*, 866 F.3d 1060 (abuse of discretion to illogically apply legal standard by refusing to allow expert to update report with scientific developments during 3-year pendency of appeal). *Hayes v. Wash. Metro. Area Transp. Auth.*, 2020 D.C. Super. LEXIS 161; *Russell*, 122 A.3d at 864-865 (unreasonably delayed supplementation of immaterial information not permitted 4 days before hearing).

⁷¹ *ZF Meritor, LLC*, 696 F.3d at 298; *citing*; *Sowell*, 926 F.2d at 302; *Meyers*, 559 F.2d at 904-905 (assesses importance of evidence and how critical its absence).

Plaintiffs' experts' 2017 Supplemental Reports include landmark studies of paramount importance in evaluating the scientific, biological and health effects of electromagnetic fields and cell phone radiation. Nevertheless, Judge Josey-Herring struck some 300 post-February 2013 studies and entire opinion sections stemming from important new and relevant scientific research and studies. Judge Josey-Herring also struck all newly cited pre-2013 scientific studies and topics simply because they existed in February 2013, and her conclusion the experts could have relied on the information in their 2013 Reports.⁷² Judge Josey-Herring also refused to allow the experts to revise the way they expressed even a single opinion in their 2013 Reports to account for the evidentiary standard change and struck several general causation opinions that had evolved along with post-2013 science, because the overall topic existed in January 2013 and therefore purportedly could have been addressed in the 2013 Reports, stating: "each expert's supplementation was bound by the scope of topics covered in that expert's [2013 Report]," and "the fact that post-2013 science may have 'updated [an expert's] perspective on an old study is irrelevant if that expert had the opportunity to mention or discuss that pre-2013 study in their [2013 Expert Report] but failed to do so..."⁷³

Inasmuch as Judge Josey-Herring's rulings are contrary to this Court's

⁷² Apx. 585-645; GX1853, GX1744, GX1661, GX2030, GX1984. *See also*, Apx., 871-914, 959-996, 1230-1268, 782-865.

⁷³ Apx., 636.

Opinion,⁷⁴ Judge Weisberg's Order and Rule 26(E)(2), Plaintiffs sought reconsideration (which was denied in 2019), and placed renewed objections during *Daubert* briefing and proceedings.⁷⁵ Judge Irving had full authority to reconsider or change the prior erroneous rulings⁷⁶ and initially expressed his intent at the *Daubert* hearing to "not adhere slavishly to [J]udge Josey-Herring's prior [strike] rulings;" but he nevertheless "slavishly" held to each strike ruling and repeated throughout the hearing that (now Chief) Judge Josey-Herring's rulings were the final word to which he must strictly defer.⁷⁷ Judge Irving also followed Judge

⁷⁴ See, Motion for Reconsid. (Oct. 12, 2018). See also, Pls. Suppl. Materials & Brief (Jan. 12, 2018) and Pls. Revised Suppl. Materials and Brief (Feb. 6, 2018).

⁷⁵ Pls. Mem. in Opp. to Exclude Expert Testimony, 13; *Daubert* Post-Hrg. Brief, 8; Apx., 4449-4451 [*Daubert* Hrg., 18:5-20:2 (Sept. 12, 2022 AM)], Apx., 4636-4638 [18:3-20:19 (Sept. 13, 2022 AM)].

⁷⁶ "Since the first judge always has the power to change a ruling after further reflection, so too does a successor judge" and has "discretion to do so in the interest of furthering the administration of justice." *PSEG Nuclear, LLC v. U.S.*, 2005 U.S. Claims LEXIS 497, *7-8; citing; *Exxon Corp. v. U.S.*, 931 F.2d 874, 878 (Fed. Cir. 1991); *Jamesbury Corp. v. Litton Indus. Prod., Inc.*, 839 F.2d 1544, 1551 (Fed. Cir. 1988); *U.S. Gypsum Co. v. Schiavo Bros., Inc.*, 668 F.2d 172, 176 (3d Cir. 1981); *Abshire v. Seacoast Prods., Inc.*, 668 F.2d 832, 837-38 (5th Cir. 1982). See also; *O'Keefe v. Noble Drilling Corp.*, 347 Fed. Appx. 27, 30 (5th Cir. 2009) ("Law of the case doctrine 'is a rule of convenience and utility and yields to adequate reason, for the predecessor judge could have always have reconsidered his initial decision so long as the case remained in his court.' A judge to whom a case has been transferred has the same power to reconsider prior rulings as the predecessor judge."). *Schultz v. Onan Corp.*, 737 F.2d 339 (3d Cir. 1984). *Curiale v. Tiber Holding Corp.*, 1997 U.S. Dist. LEXIS 14563 (ED Pa 1997); *Allison v. Centris Fed. Credit Union*, 885 F.3d 528 (8th Cir. 2018).

⁷⁷ Apx., 4839 [*Daubert* Hrg., 16:7-12 (Sept. 14, 2022 PM)]; Apx., 4448-4449, 4489-4490 [*Daubert* Hrg., 17:25-18:4, 58:15-59:15 (Sept. 12, 2022 AM)], Apx., 4549, 4571-4572, 4580-4581 [12:10-15, 34:24-35:22, 43:9-44:4 (Sept. 12, 2022

Josey-Herring’s misplaced commitment to adhering to the science as it existed at the time the Murray Cases were filed over two decades earlier.⁷⁸ Ultimately, the *Daubert* admissibility decision was based on the stricken opinions and reports of Plaintiffs’ experts which had been gutted by the Strike Order, including crucial epidemiology and incidence data opinions. Combined with the exclusion of Dr. Portier’s and other additional expert scientific opinions, the Superior Court’s clearly erroneous rulings prevented Plaintiffs from accessing the full body of scientific evidence which significantly evolved throughout the 23 years of these cases and having a full and fair *Daubert*/Rule 702 hearing and decision.

III. THE SUPERIOR COURT’S EXCLUSION OF PLAINTIFFS’ EXPERTS UNDER *DAUBERT*/RULE 702 IS CLEARLY ERRONEOUS.

Judge Irving’s *Daubert* decision was based on the gutted opinions and

PM)]; Apx., 4622-4637 [4:13-11:17, 13:17-19 (Sept. 13, 2022 AM)]; Apx., 4749, 4759, 4791, 4797-4798 [10:6-11, 20:12-15, 52:1-23, 58:23-59:21 (Sept. 14, 2022 AM)], Apx., 4817-4821 [78:5- 82:24 (Sept. 14, 2022 AM)], Apx., 4826-4827, 4839, 4842-4843 [3:9-4:5, 16:7-12, 19:20-20:15 (Sept. 14, 2022 PM)]; Apx., 5015, 5019-5021 [22:11-15, 26:1-28:6 (Sept. 15, 2022 PM)]; Apx., 5254-5264 [58:21-25, 60:10-19, 61:12-68:3 (Sept. 20, 2022 AM)], Apx., 5325-5326, 5344 [52:24-53:20, 71:17-21 (Sept. 20, 2022 PM)], Apx., 5351, 5355-5356, 5419-5425, 5432 [5:6-9, 9:4-10:12, 73:8-79:18, 86:3-25 (Sept. 21, 2022 AM)], Apx., 6144, 6151, 6153-6154, 6157-6158, 6207 [42:7-9, 49:14-16, 51:20-52:4, 55:21-56:7, 105:5-7 (Sept. 29, 2022 AM)], Apx., 6226 [16:4-6 (Sept. 29, 2022 PM)]; Apx., 731-1283.

⁷⁸ Apx., 4545 [*Daubert* Hrg., 8:3-9 (Sept. 12, 2022 PM)] (“stay within the confines of the facts, the law, the literature, existing at the time this case was filed [and not] what the science may be now...”); Apx., 5308-5309 [35:22-36:4 (Sept. 20, 2022 PM)], Apx., 6225-6226 [15:22-16:6 (Sept. 29, 2022 PM (“answers should be consistent with the contemporaneous responses at the 2013 proceedings and depositions...”))].

reports of Plaintiffs’ experts. Moreover, Judge Irving’s 2023 determinations violated *Daubert*’s gatekeeping duties requiring a “delicate touch” and “permit[ting] testimony that is the product of competing principles or methods in the same field of expertise.”⁷⁹ Judge Irving unduly focused on general acceptance (not required under *Daubert* inquiry) and the conclusions generated by Plaintiffs’ experts (not a component of *Daubert* inquiry), instead of focusing “solely on principles and methodology.”⁸⁰ Judge Irving’s rulings were clearly erroneous and an abuse of discretion.

A. Dr. Michael Kundi, Ph.D., Med Habil (Epidemiology, Biostatistics, Cell Biology)

In 2014, Judge Weisberg found Dr. Kundi imminently qualified to testify as an expert in epidemiology and cell biology, his testimony and opinions admissible under *Frye/Dyas*, his causation opinions probative to the ultimate issue in this case, and his Pragmatic Dialogue Method methodology essentially a structured Bradford Hill analysis and generally accepted epidemiologic causation determination.⁸¹

In 2023, Judge Irving agreed that Dr. Kundi’s scientific knowledge would help the factfinder under Rule 702(a); but erroneously excluded Dr. Kundi under Rule 702(b)-(d) as failing to provide sufficient facts and data to support his opinion

⁷⁹ Apx., 3398-3400 [*Murray*, 147 A.3d at 757-758]. *Townsend*, 183 A.3d 727, n.10; *Williams*, 2019 D.C. App. LEXIS 247, 15-16; Rule 702 advisory committee’s notes to 2000 amendments (N.54); Apx., 514-515, 550-542.

⁸⁰ Apx., 3396-3397 (*Murray*, 147 A.3d at 754; *citing*; *Daubert* 509 U.S. at 595).

⁸¹ Apx., 527-530; Apx., 4743 [*Daubert* Hrg., 4:5-7 (Sept. 14, 2022 AM)].

and too great an analytical gap existed between the data and proffered opinion.⁸²

Each of Judge Irving's findings was clearly erroneous, especially if Dr. Kundi's full opinions and report had not been erroneously excluded.

- Dr. Kundi's 2013 Report clearly describes a shift in the age-incidence function due to a *promotional* effect on tumor growth rate, explaining why this type of effect with varying levels of exposure and rapidly changing exposure metrics would be virtually undetectable in the incidence trends.⁸³
- He explained his theory that radiofrequency promotes, rather than initiates, tumors "would not cause increases in glioma and acoustic neuroma, and their reported incidence data, as quickly as opposed to a theory hypothesizing that radiofrequency initiates tumors."
- He prepared a meta-analysis in his 2017 Supplemental Report as he said should always be done when citing more than two studies. Judge Irving barred him from testifying about his meta-analysis or the analyzed studies, refusing to depart from Judge Josey-Herring's erroneous Strike Order which struck Dr. Kundi's meta-analysis from his 2017 Supplemental Report because his 2013 Report did not contain one (because he only relied on 2 studies at that time).⁸⁴
- Dr. Kundi explained that the new studies were important along with the old studies due to patterns in the literature providing confidence of a real causal relationship of long term cell phone use, tumors arising in the heavily exposed region of the brain, and larger ipsilateral ulcerations (i.e., the hemisphere the device was held to).⁸⁵

⁸² Apx., 1309, 1311.

⁸³ Apx., 1294-1295; Apx., 5025 [*Daubert* Hrg., 32:9-13 (Sept. 15, 2022 PM)]; Apx., 1841, 1851 ("It is most likely that the associations between mobile phone use and intracranial tumors seen in epidemiological studies are caused by a promotional or tumor growth effect."); Apx., 3935.

⁸⁴ Apx., 4798 [*Daubert* Hrg., 59:1-21 (Sept. 14, 2022 AM)]; Apx., 600-601.

⁸⁵ Apx., 4801 [*Daubert* Hrg., 62:19-66:12 (Sept. 14, 2022 AM)].

- He testified about epidemiological evidence of promotion⁸⁶ as well as animal study findings showing that exposure to radiofrequency causes gliomas and acoustic neuromas.⁸⁷
- Dr. Kundi also cited co-carcinogenicity animal cancer studies in his 2017 Supplemental Expert Report (another name for promotion - a second agent promotes the already initiated tumor).⁸⁸
- Dr. Kundi also discussed genotoxic effects observed in *in vitro* studies at the cellular level.⁸⁹
- He also testified, to the extent permitted, that the NTP Partial Release showed a compelling animal study and protocol, important to consider in a reliable epidemiology evaluation along with the epidemiological evidence.⁹⁰
- Judge Irving would not allow Dr. Kundi to testify about his article submitted on incidence data after his 2017 Report,⁹¹ but he was allowed to explain his tumor growth promotion opinion given seemingly contrary incidence trend data.
- Further bolstering his opinions on the impact of evolving cell phone technology and usage, Dr. Kundi was joined by 54 fellow authors in his 2022 MOBI-Kids study, each scientist joining and signing off on the facts and likely implications of differences in phone technologies and usage.⁹²

⁸⁶ Apx., 4972 [*Daubert* Hrg., 75:1-12 (Sept. 15, 2022 AM)].

⁸⁷ Apx., 4953 [*Daubert* Hrg., 56:11-23 (Sept. 15, 2022 AM)].

⁸⁸ Apx., 4954-4955 [*Daubert* Hrg., 57:23-58:8 (Sept. 15, 2022 AM)].

⁸⁹ Apx., 3931-3932.

⁹⁰ Judge Irving barred Dr. Kundi from testifying about the NTP study, except to the extent referenced in his 2017 Report - clear error where only the preliminary partial report was available until 2018. Apx., 4729-4737 [*Daubert* Hrg., 22:1-30:21 (Sept. 13, 2022 PM)], Apx., 4746-4749, 4759-4773 [*Daubert* Hrg., 7:3-10:11, 20:12-33:23, 34:7-9, 36:14-37:2 (Sept. 14, 2022 AM)].

⁹¹ Apx., 4878-4893 [*Daubert* Hrg., 55:4-22, 56:23-57:18, 69:10-70:12 (Sept. 14, 2022 PM)]; Apx., 4962-4964 [65:12-67:17 (Sept. 15, 2022 AM)], Apx., 5012-5013 [19:24-20:10, 34:4-9, 37:1-10 (Sept. 15, 2022 PM)].

⁹² Castano-Vinyals (2022) (GX2542); Apx., 4982 [*Daubert* Hrg., 85:14-25 (Sept. 15, 2022 AM)] (MOBI-Kids case-control study reviewed brain tumors in young people age 10 to 24 in 14 countries), Apx., 4987-4992 [90:13-95:5 (Sept. 15, 2022 AM)].

- He also prepared a drawing at the *Daubert* hearing showing the effect of tumor growth promotion on the age-incidence curve, explaining how reliance on incidence trends to detect an effect is problematic on many levels and led him to not assign weight to such data, especially in light of his promotion opinion.⁹³
- Dr. Kundi explained Deltour’s projections deficiently assume everything stayed constant, and because the study was based on so very few cases.⁹⁴
- He disagreed with Chapman’s opinion that cancer epidemiology precedents are nonexistent for an induction time incidence profile of “no rise for 30 or more years followed by a sudden rise after that.” Dr. Kundi cited the “atomic bomb survivor study [where] the first induction of an effect on brain tumors was 30 or 35 years after the event,” explaining the effect is “well known from the [s]urvivors studies as well as the ten-year competency studies.”⁹⁵
- He found Little’s findings not credible because the conditions under which the projections were calculated were wrong, but added that Little nonetheless concluded that US incidence data could be consistent with INTERPHONE which found increased risk of gliomas and acoustic neuromas.⁹⁶
- Dr. Kundi performed a structured Bradford Hill analysis in both Reports.⁹⁷ In his 2013 Report, he evaluated each viewpoint pursuant to Pragmatic Dialogue methodology, appropriately assessing some as more important than others.⁹⁸ In his 2017 Supplemental Report, Dr. Kundi applied each Bradford Hill viewpoint,⁹⁹ even though it is well settled that only those applicable need be applied for a causation conclusion.¹⁰⁰

⁹³ Apx., 4976 [*Daubert* Hrg., 79:1-11 (Sept. 15, 2022 AM)]; Apx., 5003-5004 [10:1-11:2 (Sept. 15, 2022 PM)] (GX 2585).

⁹⁴ Apx., 4923 [*Daubert* Hrg., 26:1-13 (Sept. 15, 2022 AM)].

⁹⁵ Apx., 4926 [*Daubert* Hrg., 29:9-19 (Sept. 15, 2022 AM)].

⁹⁶ Apx., 4977-4978 [*Daubert* Hrg., 80:6-81:7 (Sept. 15, 2022 AM)].

⁹⁷ Apx., 4716-4723 [*Daubert* Hrg., 9:8-16:22 (Sept. 13, 2022 PM)]; Apx., 4776-4779 [37:15-40:21 (Sept. 14, 2022 AM)]; Apx., 3912-3913; Apx., 2318 [*Frye* Hrg., 99:2-12 (Dec. 2, 2013 AM)]; Apx., 527-528; Kundi (2006).

⁹⁸ Apx., 4782-4783 [*Daubert* Hrg., 43:11-44:2 (Sept. 14, 2022 AM)]; Apx., 4841-4844 [*Daubert* Hrg., 18:14-21:22 (Sept. 14, 2022 PM)].

⁹⁹ Apx., 3933-3934; Apx., 1319.

¹⁰⁰ *Kumho Tire Company*, 526 U.S. at 141-42 (Factors are not an inflexible checklist. Court has broad discretion on which factors are most informative to

- Judge Irving disregarded Dr. Kundi’s Bradford Hill assessment pertaining to bias, selection bias, confounding, meta-analysis, specificity, incidence analysis, recall analysis or dose-response, deferring to Judge Josey-Herring’s erroneous Strike Order which struck “major portions” of his extensive Bradford Hill analysis from his 2017 Report.¹⁰¹

B. Dr. Igor Belyaev, Ph.D, D.Sc. (Radiation Biophysics, Physics, Genetics, Radiobiology, Toxicological Genetics, Cancer Research)

In 2014 Judge Weisberg found Dr. Belyaev qualified under *Frye/Dyas*, his expertise and opinions likely to aid the factfinder, and that his carcinogenicity of cell phone radiation opinions will have “significant probative value because of his expertise and experience as a member of the IARC Working Group.”¹⁰²

In 2023, Judge Irving erroneously excluded Dr. Belyaev, finding under Rule 702(a) that while his testimony may assist the factfinder, his opinion does not fit this case, and finding under Rule 702(b)-(d) that he did not follow reliable methodology or base his testimony upon sufficient facts and data. Each of Judge Irving’s findings was clearly erroneous, especially if Dr. Belyaev’s full opinions and report had not been erroneously excluded.

- Dr. Belyaev specifically testified in 2013 that cell phone radiation more probably than not causes cancer including glioma and acoustic neuroma; and

reliability in context of a case.) Apx., 3933-3935; Apx., 4773, 4777-4778 [*Daubert* Hrg., 34:15-19, 38:19-39:1 (Sept. 14, 2022 AM)]; Apx., 4721 [14:1-10 (Sept. 13, 2022 PM)].

¹⁰¹ Apx., 1317; Apx., 4791, 4797-4798, 4817-4821 [*Daubert* Hrg., 52:1-23, 58:23-59:21, 78:5- 82:24 (Sept. 14, 2022 AM)]; Apx., 4826-4827, 4842-4843 [3:9-4:5, 19:20-20:15 (Sept. 14, 2022 PM)]; Apx., 4956-4957 [*Daubert* Hrg., 59:19-60:20 (Sept. 15, 2022 AM)]; Apx., 5015 [22:11-15 (Sept. 15, 2022 PM)].

¹⁰² Apx., 541, 543.

opined in his 2017 Supplemental Report that cell phone radiation “causes and/or significantly increases the risk of certain malignant and non-malignant head and brain tumors in humans” and is therefore a substantial contributing factor in cancer causation.¹⁰³

- In 2022, Dr. Belyaev testified that: (i) as an expert in the origination of glioma and acoustic neuroma caused by radiofrequency radiation, he opines that “microwaves cause the creation of cancer in human brain cells;”¹⁰⁴ (ii) by certain malignant and non-malignant head and brain tumors in humans, he means glioma and acoustic neuroma;¹⁰⁵ (iii) his “current opinion within a reasonable degree of scientific and genetic certainty is that ELF and microwave components from cell phones cause glioma and acoustic neuroma;” and (iv) his opinion is “supported by [his] own studies and by literature studies in different fields, including epidemiology, animal and *in vitro* studies, and consideration of [IARC] viewpoints.”¹⁰⁶
- Dr. Belyaev has also opined since at least 2005 that “cell phones cause brain cancers including gliomas and acoustic neuromas” which he expressed as part of the Russian National Committee on non-ionizing radiation and in a letter to the Swedish government.¹⁰⁷
- At the *Daubert* hearing, Judge Irving prohibited Dr. Belyaev from testifying about epidemiology, animal studies or Bradford Hill methodology, refusing to depart from Judge Josey-Herring’s erroneous Strike Order.¹⁰⁸
- Dr. Belyaev attested to forming his opinions using IARC carcinogenicity methodology and IARC-adopted Bradford Hill criteria, evaluating all available

¹⁰³ Apx., 2496 [*Frye* Hrg., 371:1-8 (Dec. 3, 2013 PM)]; Apx., 1950; Apx., 6140 [*Daubert* Hrg., 38:14-18 (Sept. 29, 2022 AM)].

¹⁰⁴ Apx., 6287-6288 [*Daubert* Hrg., 77:2-7, 78:8-17 (Sept. 29, 2022 PM) (Dr. Belyaev also testified to his opinion that RF is a carcinogen.)]; Apx., 6139 [37:16-20 (Sept. 29, 2022 AM)].

¹⁰⁵ Apx., 6140-6141 [*Daubert* Hrg., 38:12-39:14 (Sept. 29, 2022 AM)].

¹⁰⁶ Apx., 6140-6141, 6144-6145, 6154-6155, 6162-6164 [*Daubert* Hrg., 38:12-39:14, 42:12-43:12, 52:16-53:14, 60:12-62:21 (Sept. 29, 2022 AM)].

¹⁰⁷ Apx., 5944-5950 [*Daubert* Hrg., 25:12-27:12, 28:6-31:12 (Sept. 28, 2022 AM)]; Apx., 6292 [82:11-23 (Sept. 29, 2022 PM)]; Stockholm Ltr. (2005) (GX34); RNC Ltr. (2008) (GX2595).

¹⁰⁸ Apx., 6144, 6151, 6153-6154, 6157-6158, 6207 [*Daubert* Hrg., 42:7-9, 49:14-16, 51:20-52:4, 55:21-56:7, 105:5-7 (Sept. 29, 2022 AM)]; Apx., 609-611.

peer-reviewed studies, including epidemiology, animal studies, *in vitro* studies and his own replicated published experiments, and arriving at conclusions consistent with IARC.¹⁰⁹

- Dr. Belyaev cited 398 peer reviewed publications in his 2017 Supplemental Report,¹¹⁰ and consistent with IARC methodology included negative studies and explained when he did not directly compare them to positive studies.¹¹¹ He fully examined each supportive study to ensure sound methodology and accepted scientific principles.¹¹²
- Dr. Belyaev analyzed carcinogenicity of the animal studies related to glioma and acoustic neuroma. He relied on *in vivo* animal studies in his causation analysis, drawing from the detailed evaluation of the IARC Working Group, of which he was a member.¹¹³ He considered many key factors to evaluate whether an animal study illustrates carcinogenicity, including histopathological analysis of tumors, study size, physiological conditions, exposure metrics and prolongation of exposure.¹¹⁴
- Judge Irving precluded Dr. Belyaev from relying upon replication studies Judge Josey-Herring struck from his 2017 Supplemental Report on other grounds.¹¹⁵

¹⁰⁹ Apx., 3522-3524; Apx., 2496 [*Frye* Hrg., 371:1-8 (Dec. 3, 2013 PM)]; Apx., 4185, 4187, 4190 [Belyaev Dep., 667:23-668:9; 684:8-11, 700:21-25, 702:18-23 (Nov. 5, 2018)]; Apx., 5994 [*Daubert* Hrg., 75:9-15 (Sept. 28, 2022 AM)]; Apx., 6141-6145, 6162-6155 [39:11-43:20, 52:16-53:1, 60:12-61:6 (Sept. 29, 2022 AM)] (Judge Irving instructed Dr. Belyaev to refer to his “IARC methodology” instead of “Bradford Hill” per Judge Josie-Herring’s strike rulings); Apx., 6216, 6294 [6:8-14, 84:1-9 (Sept. 29, 2022 PM)]. IARC Monograph (2013), 411 (GX1524) (“[T]hese two studies [Hardell and INTERPHONE] represent the most robust evidence on risk of tumours of the brain associated with wireless-phone use.”)

¹¹⁰ Appx., 3519-3779 (Plus stricken post-2013 material he relied on as important advancements in epidemiology, incidence rates, animal studies and mechanism).

¹¹¹ Apx., 4186 [Belyaev Dep., 671 (Nov. 5, 2018)].

¹¹² Apx., 6030 [*Daubert* Hrg., 17:2-13 (Sept. 28, 2022 PM)].

¹¹³ Apx., 2659-2660 [*Frye* Hrg., 534:24-535:3 (Dec. 4, 2013 AM) (cited Monograph which he knows well, including 2011 animal and epidemiological studies)]. *Id.*; 533:19-22, 536:11-17 (Relied on animal studies read for IARC meeting; reviewed data IARC collected.)

¹¹⁴ Apx., 4195 [Belyaev Dep., 835:23-838:7 (Nov. 5, 2018)].

¹¹⁵ Apx., 1332.

- Dr. Belyaev applied IARC replication guidelines in his evaluation, confirming its importance and expressing the same opinion as IARC that some data can be relied upon even when not replications because “they provide some new mainstream directions and some indications of possible mechanism.”¹¹⁶

C. Dr. Wilhelm Mosgoeller, M.D. (Medical Cell Biologist)

In 2014, Judge Weisberg found under *Frye/Dyas* that Dr. Mosgoeller is imminently qualified in the caliber of his scientific, technical and other specialized knowledge in cell biology and histology; he is qualified to testify on any medical matter, his opinion was admissible and relevant to the biological plausibility aspect of general causation; and he used well-described, generally accepted methodology in his extensive literature review and in conducting his scientific experiments.¹¹⁷

In 2023, Judge Irving erroneously excluded Dr. Mosgoeller, finding under Rule 702(a) that, while his opinions could help the trier of fact, an analytical gap unsupported by facts and data exists between his causation opinion and the issue in this case, and under Rule 702(b)-(d) that his opinions are not generally accepted and he did not reliably apply his methodologies. Each of Judge Irving’s findings

¹¹⁶ Apx., 2498-2499 [*Frye* Hrg., 373:21-374:11, (Dec. 3, 2013 PM)], Apx., 2723 [598:6-9 (Dec. 4, 2014 PM)]. (Carefully followed generally accepted methods for reviewing replication studies because IARC noted throughout monograph that replication studies should be performed under same conditions as original studies, including a variety of biological and physical variables, like SAR value, polarization, modulation, frequency, prolongation of exposure, physiological status, sex, age, and many other parameters. “[In] my analysis of replication studies, I always follow [t]his methodology.”)

¹¹⁷ Apx., 4513 [*Daubert* Hrg., 82:2-12 (Sept. 12, 2022 AM)]; Apx., 545-550 (N.59); Apx., 3474-3475.

was clearly erroneous, especially if Dr. Mosgoeller’s full opinions and report had not been erroneously excluded.

- Judge Irving limited the scope of Dr. Mosgoeller’s opinions to biological plausibility in deference to Judge Josey-Herring’s erroneous Strike Order striking from Dr. Mosgoeller’s 2017 Supplemental Report and his brain tumor mechanism opinion that HF-EMF exposure can induce oxidative DNA damages to biological structures.¹¹⁸
- Judge Irving also barred his testimony about epidemiology, his induction opinion and studies, and antioxidative stress studies - even though he raised such studies in his 2013 Expert Report and by 2017 had firm opinions on oxidation based on the evolved science.¹¹⁹
- Dr. Mosgoeller’s opinion remained constant from 2013 to 2022: “Non-thermal radiation, as emitted from cell phones, causes biological effects in some human systems and cells,” including adverse health effects.¹²⁰ He opines that non-thermal radiation from cell phones causes increased DNA breakage in some types of human cells, resulting in an increased risk of cancer, and that these adverse reactions are more likely in certain metabolically active cell types.¹²¹
- His 2017 Supplemental Report added updated mechanistic data and scientific studies bolstering his opinion.¹²²
- Judge Irving focused on whether there is widespread acceptance of Dr. Mosgoeller’s opinions (not a *Daubert* requirement).¹²³

¹¹⁸ Apx., 1334; Apx., 3462; Apx., 635; Apx., 648.

¹¹⁹ Apx., 4526-4535 [*Daubert* Hrg., 95:9-104:17 (Sept. 12, 2022 AM)]; Apx., 4544-4549 [7:1-12:15, 34:24-35:22, 43:9-44:4 (Sept. 12, 2022 PM)]; Apx., 4622-4635 [4:13-17:23 (Sept. 13, 2022 AM)].

¹²⁰ Apx., 4491 [*Daubert* Hrg., 60:1-16 (Sept. 12, 2022 AM)]; Apx., 1743; Apx., 3461-3462; Apx., 2782-2783, 2786 [*Frye* Hrg., 658:6-659:6, 662:11-15 (Dec. 9, 2013)].

¹²¹ Apx., 4492-4493 [*Daubert* Hrg., 61:21-62:8 (Sept. 12, 2022 AM)]; Apx., 1743; Apx., 3461.

¹²² Apx., 4491-4493 [*Daubert* Hrg., 60:1-62:8 (Sept. 12, 2022 AM)]; Apx., 3459; Apx., 1743; Apx., 2783-2783, 2786 [*Frye* Hrg., 658:6-659:6, 662:11-15 (Dec. 9, 2013)].

- Dr. Mosgoeller testified that an increased number of DNA breaks is an indicator of an elevated risk or predictor of cancer, as the mechanism can switch off a tumor-protecting gene or change the control of a growth gene and become the driving gene for cancer (cell multiplication and uncontrolled division).¹²⁴ The break need not be specific for a particular gene, rather it is “a question of statistics” whether the affected gene gives rise to micronucleus as proof of gene damage in a particular cell.¹²⁵
- He explained that such concepts are taught in all universities dealing with toxicology and covered in toxicology textbooks as referenced in a section of his 2017 Supplemental Report entitled, “Consulting textbooks on DNA damage and carcinogenicity.”¹²⁶
- Dr. Mosgoeller explained how he conducted a thorough and reliable literature review of publications relevant to biological effects of non-thermal radiation at the cellular level.¹²⁷ Judge Weisberg found his scientific method generally accepted in 2014 when he testified to diligent search of the NIH library and his own personal libraries to screen and review “all possible papers, publications, and peer reviewed journals” about EMF (in the thousands).¹²⁸
- Dr. Mosgoeller is an expert project designer of scientific experiments, teaches methodology to the Austrian Medical Board as well as project design, research

¹²³ Apx., 3396-3397 ([*Murray*, 147 A.3d at 754; *citing*; *Daubert*, 509 U.S. at 587); Apx., 1337.

¹²⁴ Apx., 4599-4600 [*Daubert* Hrg., 62:12-63:5 (Sept. 12, 2022 PM)].

¹²⁵ Apx., 4601-4602 [*Daubert* Hrg., 64:2-65:6 (Sept. 12, 2022 PM)].

¹²⁶ Apx., 4599 [*Daubert* Hrg., 62:4:11 (Sept. 12, 2022 PM)]; Apx., 3498-3499 (His “conclusions are based on knowledge described in widely known and generally accepted textbooks...(1) Marguardt[et al.]Toxikologie; (2) Greim[et al.] Toxicology and Risk Assessment; and (3) Klaassen[et al.] Toxicology.”

¹²⁷ Apx., 4520-4521 [*Daubert* Hrg., 89:2-90:1 (Sept. 12, 2022 AM)]; Apx., 4562-4563, 4573, 4584-4585, 4587-4588 [25:25-26:17, 36:6-17, 47:17-48:7, 50:24-51:15 (Sept. 12, 2022 PM)]; Apx., 4548, 4662-4663 [30:16-24, 44:15-45:5 (Sept. 13, 2022 AM)]; Apx., 1743-1744; Apx., 3461-3462; Apx., 2786-2788 [*Frye* Hrg., 662:19-663:11-19, 664:11-19 (Dec. 9, 2013)].

¹²⁸ Apx., 545-550 (N.59). Apx., 4482, 4518-4519 [*Daubert* Hrg., 51:4-8, 87:21-88:22 (Sept. 12, 2022 AM)]; Apx., 4551-4559 [*Daubert* Hrg., 14:17-21, 16:9-19, 17:13-18:3, 18:11-23, 20:1-19, 21:9-22:15 (Sept. 12, 2022 PM)]; Apx., 2787 [*Frye* Hrg., 663:6-12 (Dec. 9, 2013)].

organization, Bradford Hill principals and scientific philosophy to medical and doctoral students.¹²⁹

- Dr. Mosgoeller utilized sound and generally accepted methodology in his original laboratory research from the ATHEM-1 and ATHEM 2 studies as detailed in both his Reports.¹³⁰ Dr. Mosgoeller was head scientist of both large research projects, leading a team of scientists with a “solid record of international and peer reviewed publications.”¹³¹ Through use of the generally accepted comet assay, an increase in broken DNA was ATHEM-1’s primary finding in certain cell lines, also observed in several other scientific studies cited in Dr. Mosgoeller’s 2017 Supplemental Report.¹³²
- Dr. Mosgoeller made clear that supposedly contrary study Speit (2007) could not possibly replicate Schwarz (2008) (published a year later) nor does Speit refer to Diem (2005), and that Speit followed flawed methodology and committed major error by not following the complete exposure practice to bring the exposed cells into the right position.¹³³
- He distinguished Al Serori (2017) which did not find micronuclei formation *after only a few hours* of cell exposure by *different methodology*.¹³⁴

D. Dr. Abraham Liboff, B.S., M.S., Ph.D. (Physics, Molecular Biology)

In 2014, Judge Weisberg found Dr. Liboff’s general causation biological plausibility opinion probative to issues in this litigation and admissible under

¹²⁹ Apx., 4499-4501 [*Daubert Hrg.*, 68:23-70:24; 72:21-74:3 (Sept. 12, 2022 AM)]; Apx., 2815 [*Frye Hrg.*, 691:6-13 (Dec. 9, 2013)].

¹³⁰ Apx., 3474-3475; Apx., 1743-1749; Apx., 548-450; Apx., 2819-2822 [*Frye Hrg.*, 695:3-698:7 (Dec. 9, 2013)]; Apx., 4520-4521 [*Daubert Hrg.*, 89:2-90:1 (Sept. 12, 2022 AM)], Apx., 4562-4563 [25:25-26:17 (Sept. 12, 2022 PM)].

¹³¹ Apx., 4648-4650 [*Daubert Hrg.*, 30:4-32:2 (Sept. 13, 2022 AM)].

¹³² Apx., 4590-4593 [*Daubert Hrg.*, 53:7-56:5 (Sept. 12, 2022 PM)] (Discussing comet assay); Apx., 3463-3465, 3478.

¹³³ Apx., 4692, 4696, 4702-4703 [*Daubert Hrg.*, 74:1-25, 78:11-23, 84:20-85:20 (Sept. 13, 2022 AM) (“You can’t replicate what hasn’t been done yet.”) (Due to Speit’s major flaws, he gave it no weight and did not include it.)]

¹³⁴ Apx., 4715 [*Daubert Hrg.*, 8:14-19 (Sept. 13, 2022 PM)]; Apx., 4209 [Mosgoeller Dep., 476:3-477:21, 487:2-10 (Dec. 11, 2018) (experiment was just a quick shot in the dark)].

Frye/Dyas,¹³⁵ that Dr. Liboff used generally accepted methodology in “drawing conclusions from a fair qualitative and quantitative review of the published scientific literature,” adding that “surely such a methodology does not lose general acceptance when you add fifty years’ worth of scholarly experience on top of it.”¹³⁶

In 2023, Judge Irving erroneously excluded Dr. Liboff, finding under Rule 702(a) his opinion irrelevant, and finding under Rule 702(b)-(d) that the analytical gap between the data used and his proffered opinion is too great. Each of Judge Irving’s findings was clearly erroneous, especially if Dr. Liboff’s full opinions and report had not been erroneously excluded.

- Dr. Liboff aids general causation by explaining how RF interacts with human tissue based on physics and biophysics principles. His own scientific experiments and those he reviewed show that while a pathway has not yet been identified, biological effects are consistently identified and “compelling evidence [exists] that even vanishingly small electromagnetic fields can interact with living organisms.”¹³⁷
- He cited important scientific studies on birds, fruit flies and cockroaches showing EMF effects on radical pair excitation at the cellular level with the implication that humans are likewise affected.¹³⁸ He explained that the studies

¹³⁵ Apx., 558-559.

¹³⁶ Apx., 558-559; *citing*; *Georgetown*, 75 A.3d at 292; *Wilson*, 59 A.3d at 1272; *Agent Orange*, 611 F.Supp. at 1243.

¹³⁷ Apx., 3855, 3858, 3860; Apx., 1817-1819; Apx., 4237-4240 [Liboff *de bene esse* Dep., 215:13-216:7, 218:13-219:8, 222:4-227:14 (Jan. 10, 2019) (The pertinent overall category is “interaction of electromagnetic fields.”)]

¹³⁸ Apx., 1828-1829; *citing*; *Foley, et al.* (2011); *Ritz* (2004); *Vacha* (2009); Apx., 4241 [Liboff *de bene esse* Dep., 230:11-231:8 (Jan. 10, 2019)].

show that both ELF and higher RF frequencies cause biological effects,¹³⁹ and that the Vacha results “implied another connection to biological effects due to radical pair mechanisms” leading to many suggestions to look to humans for the same effects.¹⁴⁰

- Dr. Liboff’s updated 2017 scientific opinion is that cell phone radiation causes adverse health effects including cancer, gliomas and acoustic neuromas.
- Judge Irving followed Judge Josey-Herring’s erroneous Strike Order striking this opinion from Dr. Liboff’s 2017 Supplemental Report along with his analyses of glioblastoma incidence rates, epidemiology, mechanistic theories, and interfacial water model; resulting in the redaction of some 40 percent of Dr. Liboff’s *Daubert* opinion and testimony, including his “strong” opinion beyond a reasonable doubt that cell phone electromagnetic fields cause cancer, gliomas and acoustic neuromas in humans and a whole range of medical problems adversely affecting human health.¹⁴¹
- Dr. Liboff explained that his general causation opinions are well-founded based on reliance upon his own experiments, experience and expertise spanning several decades, a thorough scientific literature review of the peer reviewed experiments of others, and discussions with other scientists in the field.¹⁴²
- He conducted extensive Google Scholar and ResearchGate searches, relying on 60 peer reviewed scientific *in vivo* and *in vitro* studies, and WHO reviews, for his 2013 Report, and another 98 in preparing his 2017 Supplemental Report, all published in highly respected journals.¹⁴³ His active peer reviewer status also provided excellent added information not otherwise readily available.¹⁴⁴

¹³⁹ Apx., 4251 [Liboff *de bene esse* Dep., 323:1-17 (Jan. 10, 2019)].

¹⁴⁰ Apx., 4241, 4242, 4250 [Liboff *de bene esse* Dep., 230:7-231:8, 233:11-18, 236:14-22, 321:7-20 (Jan. 10, 2019)].

¹⁴¹ Apx., 590-599; Apx., 4217, 4219, 4221-4223 [Liboff *de bene esse* Dep., 104, 111, 121-124, 126-127 (Jan. 9, 2019)]; Apx., 4225, 4226, 4233-4235, 4244-4245 [Liboff *de bene esse* Dep., 156-157, 162-166, 197-306 (Jan. 10, 2019)].

¹⁴² Apx., 4214 [Liboff *de bene esse* Dep., 90:3-21 (Jan. 9, 2019)]; Apx., 2051-2052 [Liboff *de bene esse* Dep., 67:13-68:6 (Nov. 20, 2013)]; Apx., 1809; Apx., 3850.

¹⁴³ Apx., 4214 [Liboff *de bene esse* Dep., 90:17-91:2 (Jan. 9, 2019)]; Apx. 2023-2026, 2053-2054, 2097 [Liboff *de bene esse* Dep., 39:19-42:16, 69:7-70:9, 113:3-23 (Nov. 20, 2013)]; Apx., 3866-3867.

¹⁴⁴ Apx., 2054-2056 [Liboff *de bene esse* Dep., 70:3-72:1 (Nov. 20, 2013)].

- He further explained important methodological considerations taken into account when selecting studies to rely on and cite.¹⁴⁵
- Dr. Liboff also “ma[de] sure the studies he relied upon for his Reports met the same standards that you would expect for a paper to be published in a [peer review] journal.”¹⁴⁶
- He confirmed the importance of considering all relevant literature, positive and negative, and use of generally accepted methods in his scientific community learned through lengthy scientific experience and peer reviewer service.¹⁴⁷
- Dr. Liboff relied only on studies that followed “very often the most important criterion” of repeating a study “three times or, best yet, ten times to see whether [the effect] happens again and again and again,” and met the added reliability of “doing it in a way that is unique but reproducible.”¹⁴⁸
- He confirmed evidence of positive replication or reproducibility for the experiments discussed in his Reports,¹⁴⁹ also in 2013 and 2019 explaining the Juutilainen distinction between replication and reproducibility and the principle that very often in science one does not reach conclusions on the basis of identical replication, but rather, “if you look at the total picture with all the experiments done with these fields, and you get a response which is always there, there must be something which exists through all of them.”¹⁵⁰
- Dr. Liboff addressed failed replications, explaining that Smith (1987) was included in a table showing an “effect which is found in seven or eight or ten different biological types,” that it “represents a very important study because it

¹⁴⁵ Apx., 2062-2064 [Liboff *de bene esse* Dep., 78:22-80:5 (Nov. 20, 2013)].

¹⁴⁶ Apx., 2065 [Liboff *de bene esse* Dep., 81:2-15 (Nov. 20, 2013)]; Apx., 4215 [Liboff *de bene esse* Dep., 95:13-96:16 (Jan. 9, 2019)].

¹⁴⁷ Apx., 4214-4215 [Liboff *de bene esse* Dep., 91:8-92:3, 95:13-96:16 (Jan. 9, 2019)]; Apx., 4243 [Liboff *de bene esse* Dep., 250:13-251:1 (Jan. 10, 2019)].

¹⁴⁸ Apx., 4215 [Liboff *de bene esse* Dep., 95:13-96:16 (Jan. 9, 2019)].

¹⁴⁹ Apx., 4214 [Liboff *de bene esse* Dep., 92:23-93:22 (Jan. 9, 2019)]; Apx., 2076 [Liboff *de bene esse* Dep., 92:9-16 (Nov. 20, 2013)].

¹⁵⁰ Juutilainen, et al. (2011) (GX1574); Apx., 4214, 4221 [Liboff *de bene esse* Dep., 93:8-22 120:25-123:4 (Jan. 9, 2019) (“Happens in physics a lot.”)]; Apx., 2074-2076 [Liboff *de bene esse* Dep., 90:10-92:8 (Nov. 20, 2013) (Especially true when same sort of response from various biological subjects, diatoms, rats, rat behavior, etc., is obtained for these magnetic fields.)]

was done many times after that,” and that to show the “very, very, very few failed replications” would not be correct in such format.¹⁵¹

- He explained that “there was a good reason for not” referencing failed replications of the Adey (1973 and 1978) and Blackman (1985) studies because “there were very few of them and they were for an institution...which never had anything but non-replications.”¹⁵² Dr. Liboff further explained that the results of the Blackman, Salford and Adey studies were remarkable and reproducible and “has been replicated in many, many ways.”¹⁵³

E. Dr. Dimitris Panagopoulos, Ph.D. (Biophysics and Biology)

Judge Weisberg found in 2014 that Dr. Panagopoulos’ expertise in biophysics and cell phone radiation *in vivo* studies qualifies him to render a general causation opinion which would help the trier of fact—but excluded him under *Frye/Dyas* because his exposure methodology was not yet generally accepted.¹⁵⁴

In 2023, Judge Irving erroneously excluded Dr. Panagopoulos, finding his opinion irrelevant under Rule 702(a), and finding under Rule 702(b)-(d) that he did not apply a reliable principle and method. Each of Judge Irving’s findings was clearly erroneous, especially if Dr. Panagopoulos’ full opinions and report had not been erroneously excluded.

¹⁵¹ Apx., 4252 [Liboff *de bene esse* Dep., 263:18-264:20, 326:22-327:11 (Jan. 10, 2019)].

¹⁵² Liboff *de bene esse* Dep., 268: 4-17 (Jan. 10, 2019).

¹⁵³ Apx., 4252 [Liboff *de bene esse* Dep., 327:12-328:15 (Jan. 10, 2019)] (Very remarkable result, replicated in many, many ways.)

¹⁵⁴ Apx., 552-553, 555.

- Dr. Panagopoulos’ opinion is highly relevant: that cell phone radiation more probably than not causes adverse health effects in humans, including severe DNA damage, thereby increasing the risk of cancer.¹⁵⁵
- The link to cancer is reliably based on DNA damage from cell phone radiation, as shown in his and other scientists’ *Drosophila* studies; epidemiological animal, *in vitro* and *in vivo* studies.¹⁵⁶
- He has performed scientific studies for decades on biological effects of electromagnetic fields and non-ionizing radiation, and is well qualified to opine about cancer as an expert in generally accepted methodologies for determining exposures causing DNA damage (the main cause of cancer) and if an exposure causes human brain cancer.¹⁵⁷ From 2014 through 2019, he continued to refine his cancer expertise at the Mobile Research Center conducting laboratory research on human cancer, human lymphocytes and chromosome damage leading to cancer, and cancer mechanism.¹⁵⁸
- He described in detail the reliability of his exposure methodology, however, Judge Irving deferred to Judge Josey-Herring’s erroneous Strike Order striking Dr. Panagopoulos’ analysis of the reliability of real signals and exposures contrasted with the unreliability of simulated cell phone signals from his 2017 Supplemental Report.¹⁵⁹ Dr. Panagopoulos was barred from explaining the

¹⁵⁵ Apx., 5211-5215 [*Daubert* Hrg., 15:16-19:10 (Sept. 20, 2022 AM)]; Apx., 3788-3789; Apx., 2989-2990, 3062 [*Frye* Hrg., 1211:16-1212:7, 1283 (Dec. 12, 2013 PM)]; Apx., 1780-1781.

¹⁵⁶ Apx., 5302-5303, 5309-5310, 5312, 5326 [*Daubert* Hrg., 29:15-30:6, 36:20-37:4, 39:6-15, 53:16-21 (Sept. 20, 2022 PM)]; Apx., 1799-1807; Apx., 3822-3838; Apx., 3052-3053 [*Frye* Hrg., 1274:17-1275:15 (Dec. 12, 2013 PM)].

¹⁵⁷ Apx., 5215-5218 [*Daubert* Hrg., 19:25-21:3, 22:10-23 (Sept. 20, 2022, AM) (Dr. Panagopoulos obtained his Ph.D. on biological effects of electromagnetic fields, and authored two post-doctoral studies on effect of cell phone radiation on reproduction, and effect of microwave radiation on DNA and cell death)]; Apx., 2997-2999 [*Frye* Hrg. 1219-1221 (Dec. 12, 2013 PM)]; Apx., 3780-3848; Apx., 5363-5365 [*Daubert* Hrg., 17:10-19:22 (Sept. 21, 2022 AM)].

¹⁵⁸ Apx., 5366, 5369-5370 [*Daubert* Hrg., 20:9-24, 23:17-24:6 (Sept. 21, 2022 AM)].

¹⁵⁹ Apx., 612-616; Apx., 3815-3817.

reliability of his exposure methodology.¹⁶⁰

- Dr. Panagopoulos chose the *Drosophila* because it is a standard and widely-used laboratory animal, a “very well-studied organism” and “one of the best genetically described animals” with many advantages allowing extrapolated results to humans.¹⁶¹
- *Drosophila* is a “model biological system” sharing many common genomic characteristics with humans, contains cells with identical constituents undergoing identical functions, and has oogenesis processes with “great similarities to all other animals” from which scientists “draw important conclusions.”¹⁶² From 1933 to 2017, six Nobel Prizes were awarded to ten scientists for groundbreaking biological work based on *Drosophila* research, and the *Drosophila Melanogaster* Genome Sequencing Project is a critical part of The Human Genome Project mapping the human genome.¹⁶³
- The scientific literature overwhelmingly supports the utility of *Drosophila* studies to infer human health effects.¹⁶⁴

¹⁶⁰ Apx., 5254, 5256-5264 [*Daubert* Hrg., 58:21-25, 60:10-19, 61:12-68:3 (Sept. 20, 2022 AM) (Judge Irving also precluded his testimony on other scientists’ use of simulated signals from fluctuating generators, the critical role of polarization in the bioactivity of man-made EMFs (despite his 2015 study on this), and several scientific studies including post-2017 studies he authored corroborating past results and establishing the reliability of his principals and methods.); Apx., 5325-5326, 5344 [52:24-53:20, 71:17-21 (Sept. 20, 2022 PM)]; Apx., 5351, 5355-5356 [5:6-9, 9:4-10:12 (Sept. 21, 2022 AM)].

¹⁶¹ Apx., 5225, 5238-5240 [*Daubert* Hrg., 29:2-6, 42:3-44:11 (Sept. 20, 2022 AM)]; Apx. 3788; Apx., 3019 [*Frye* Hrg., 1241:1-22 (Dec. 12, 2013 PM)].

¹⁶² Apx., 5238-5240 [*Daubert* Hrg., 42:3-44:11 (Sept. 20, 2022 AM)]; Apx., 3805-3806; Apx., 4205-4206 [Panagopoulos Dep., 292:13-294:7 (Nov. 29, 2018)]; Apx., 3019-3020 [*Frye* Hrg., 1241:23-1242:2 (Dec. 12, 2013 PM)].

¹⁶³ Apx., 3020 [*Frye* Hrg., 1242 (Dec. 12, 2013 PM)]; Mackie (2017); Apx., 5238-5239 [*Daubert* Hrg., 42:20-43:24 (Sept. 20, 2022 AM)]; NIH Nat’l Human Genome Res. Inst. <https://www.genome.gov/about-nhgri/Brief-History-Timeline>

¹⁶⁴ Dr. Mosgoeller confirmed that *Drosophila* studies can contribute if they show DNA breaks.” Apx., 2943 [*Frye* Hrg., 1165:16-17 (Dec. 12, 2013 AM)]. Dr. Plunkett confirmed the general acceptance and reliability of Dr. Panagopoulos’ use of fruit fly experiments to study DNA damage where *Drosophila* research has facilitated many important discoveries related to carcinogenicity, and the data on

- Dr. Panagopoulos summarized the exact steps he followed in his peer review published scientific studies, stressing the importance of adhering to very specific protocols in his experimental methodology in order to keep environmental parameters to minimize variability in the results.¹⁶⁵
- He explained the *necessity* of highly fluctuating fields in his experiments where the precise cause of bioactivity of non-ionizing fields is the real condition of highly fluctuating modulated cell phone signals, making real cell phones the only reliable exposure methodology.¹⁶⁶ Thus, it is exactly the effects of extreme fluctuation that must be measured. Dr. Panagopoulos explained that his work has been replicated by Margaritis (2014) (by a different research group than Dr. Panagopoulos' studies with no involvement whatsoever by him), and Geronikou (2014) (by independent scientists of other institutions using a University lab not in his workplace).¹⁶⁷

Drosophila exposed to environmental conditions, chemicals and agents is used by toxicologists to predict types of effects that may be produced in humans. Apx., 1767-1768; *citing*; Abate-Shen (2002); Tickoo, et al. (2002) (“Fruit fly is an important model organism for understanding basic cellular processes in humans, including the mechanisms that are operating in diseases such as cancer”), Bergstrahl, et al. (2012); Geissler, et al. (2012) (Human cancer research using *Drosophila* a common topic for biologists and hemato-oncologists.); Kollareddy et al. (2012); Neckameyer (2013) (Fruit fly physiology has had “enormous impact on understanding of human physiology”); Apx., 3265-3279 [*Frye* Hrg., 1489:9-1503:8 (Dec. 13, 2013 PM)].

¹⁶⁵ Apx., 3790; Apx., 5241-5247 [*Daubert* Hrg., 45:6-51:4 (Sept. 20, 2022 AM)].

¹⁶⁶ Apx., 5246-5247 [*Daubert* Hrg., 50:19-51:4 (Ideal simulated exposure has very little to do with the real one)]; Apx., 5255-5256 [59:3-60:14 (Must use a cell phone to test bioactivity of cell phone radiation)]; Apx., 5257-5258, 5264-5266 [61:12-62:16, 68:9-70:16 (Unlike simulated exposures, cell phones signals undergo extreme fluctuations depending on real life conditions along with countless other uncontrolled variations)]; Apx., 5258-5264, 5266 [62:11-68:5, 70:14-18 (Barred from explaining polarization’s combined effects with signal variation)]; (Sept. 20, 2022 AM)]; Apx., 5297-5298 [24:4-25:2 (Sept. 20, 2022 PM)]; Apx., 5444-5445 [98:16-99:3 *Daubert* Hrg. (Sept. 21, 2022 AM)]; Apx., 3198 [*Frye* Hrg., 1421 (Dec. 13, 2013 AM)].

¹⁶⁷ Apx., 5302-5303 [*Daubert* Hrg., 29:15-30:6 (Sept. 20, 2022 PM)]; Apx., 5383-5385, 5387-5389, 5439 [37:21-39:15, 41:9-43:2, 93:10-23 (Sept. 21, 2022 AM)];

- Dr. Panagopoulos considered and relied upon hundreds of published peer reviewed studies, including animal, epidemiological, *Drosophila*, and numerous studies showing adverse effects from cell phone radiation exposure on human lymphocytes, epithelial cells, neuroblastoma cells, micronucleated exfoliated cells, brain nerve cells, and lens epithelial cells, among others, as well as the Hardell epidemiology studies (also considered and relied upon by IARC).¹⁶⁸

F. Dr. Laura Plunkett, Ph.D., DABT (Toxicology, Pharmacology, Toxicology, Human Health Risk Assessment)

In 2014, Judge Weisberg found Dr. Plunkett qualified under *Frye/Dyas* to testify as an expert in pharmacology, toxicology and methods of assessing human health risks, and that her testimony could aid the jury.¹⁶⁹

In 2023, Judge Irving erroneously excluded Dr. Plunkett, finding her opinions under Rule 702(a) irrelevant, unnecessary and cumulative; and unhelpful to connect Dr. Panagopoulos' *Drosophila* studies to cancer. Each of Judge Irving's findings was clearly erroneous, especially if Dr. Plunkett's full opinions and report had not been erroneously excluded.

Apx., 3840; Apx., 3099, 3181 [*Frye* Hrg., 1322, 1404 (Dec. 13, 2013 AM)]; Apx., 4200-4201 [Panagopoulos Dep., 125:12-126:18 (Nov. 29, 2018)].

¹⁶⁸ Apx., 5238-5239 [*Daubert* Hrg., 42:3-43:13 (Sept. 20, 2022 AM)]; Apx., 5312, 5326, 5331 [39:6-39:15, 53:16-21, 58:14-19 (Sept. 20, 2022 PM)]; Apx., 5418-5419, 5422-5423, 5447-5448 [72:20-73:23, 76:10-77:11, 101:15-102:3 (Sept. 21, 2022 AM)]; Apx., 1774-1807, *gen.*, and 1799-1807; Apx., 3870-3848 *gen.*; and 3822-3838; Apx., 3052-3053 [*Frye* Hrg., 1274:17-1275:15 (Dec. 12, 2013 PM)]; IARC Monograph (2013) (GX1524); *citing*; Hardell papers, 409-411.

¹⁶⁹ Apx., 560-561.

- Judge Irving “decline[d] to consider” Dr. Plunkett’s 2017 updated general causation opinions because Judge Josey-Herring struck them from her Supplemental Expert Report as “surpass[ing] the scope of her [2013] report.”¹⁷⁰
- Dr. Plunkett expanded her 2013 methodology related opinions to a general causation opinion in 2017 due to “a variety of new peer-reviewed studies that provide additional scientific support for a biologically plausible mechanism for RFR-induced tumor formation, specifically brain tumors and acoustic neuromas in humans.”¹⁷¹ She explained that she did not possess a general causation opinion in 2013 because the animal and *in vitro* data was not sufficiently robust for her to form such an opinion under the *Frye/Dyas* general acceptance standard.¹⁷²
- Dr. Plunkett specifically focused on *Drosophila* material,¹⁷³ pointing out that technical advances in computational toxicology have increased the ability to extrapolate from nonmammalian species to humans.¹⁷⁴
- She confirmed that “there is no controversy over the scientific basis of the use and extrapolation of data collected in *Drosophila* to predict the types of effects that may be produced in humans exposed to similar chemicals or environmental conditions.”¹⁷⁵ She explained this is true particularly in assessments where cancer is the endpoint of concern and in examining the mechanisms that are operating in diseases like cancer and for studying the genetic basis for observed changes and the ability for an organism to adapt.¹⁷⁶
- Dr. Plunkett described *Drosophila* as a model organism for human biology and extrapolation of data to predict human health effects for many reasons, such as

¹⁷⁰ Apx., 1357; Apx., 587-589.

¹⁷¹ Apx., 3430.

¹⁷² Apx., 3406-3407, 3413-3422, 3430.

¹⁷³ Apx., 3248-3249 [*Frye Hrg.*, 1472:24-1473:10 (Dec. 13, 2013 PM)].

¹⁷⁴ Apx., 1763-1764; *citing*; Goldstein and Henifen (2011); R.J. Kavlock et al., (2008). *See also*, D. Malacarne et al., (1993); Kroes, et al., (2004).

¹⁷⁵ Apx., 1767-1768; *citing*; Abate-Shen (2002); Tickoo, et al. (2002); Bergstrahl, et al. (2012); Geissler, et al. (2012); Kollareddy et al. (2012); Neckameyer (2013); Apx., 3265-3279 [*Frye Hrg.*, 1489:9-1503:8 (Dec. 13, 2013 PM)].

¹⁷⁵ Apx., 1767-1768; Apx., 3260 [*Frye Hrg.*, 1484:10-20 (Dec. 13, 2013 PM)].

¹⁷⁶ Apx., 1767-1768; Apx., 3415; Apx., 3260 [*Frye Hrg.*, 1484:10-20 (Dec. 13, 2013 PM)]; Apx., Plunkett Dep., 165:17-166:15 (Nov. 15, 2018).

sharing the same cells and a very high percentage of homology between genes and genetic functions.¹⁷⁷

- In reaching her opinions on Dr. Panagopoulos' methodologies, Dr. Plunkett focused on his scientific studies, pooling them to examine designs and endpoints, and made the "important finding" that many were designed to examine effects produced by different doses and durations of exposure.¹⁷⁸
- She testified that Dr. Panagopoulos' *Drosophila* studies are reliable and appropriate evidence to assess hazard and give important mechanistic information.¹⁷⁹
- Her opinions are reliable in using WOE and Bradford Hill methodologies.¹⁸⁰

CONCLUSION

For the foregoing reasons, Plaintiffs respectfully requests this Honorable Court to reverse and render each underlying order appealed herein upon which the August 1, 2023 Final Judgment Order is based (dated April 25, 2023, January 6, 202, April 21, 2021, July 3, 2019, July 3, 2019, November 14, 2018, August 28, 2018, and March 16, 2017, and reverse and render the resulting August 2023 Summary Judgment Order.

Dated: February 12, 2024

¹⁷⁷ Apx., 3264 [*Frye* Hrg., 1488:4-1489:18 (Dec. 13, 2013 PM)]; Plunkett Dep., 102:23-103:23 (Nov. 15, 2018).

¹⁷⁸ Apx., 3248-3249, 3284-3285 [*Frye* Hrg., 1472:24-1473:10, 1508-1509 (Dec. 13, 2013 PM) (data with different doses and durations of exposure is a Bradford Hill consideration)]; Apx., 1767.

¹⁷⁹ Plunkett Dep., 167:19-168:13 (Nov. 15, 2018); *Id.* at 170:19-172:3 (WOE looks across multiple sources of data from multiple labs to build knowledge.)

¹⁸⁰ *Id.*, 168:14-169:6.

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Certificate of Service

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No. 23-CV-700

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District of Columbia Court of Appeals

REDACTION CERTIFICATE DISCLOSURE FORM

Pursuant to Administrative Order No. M-274-21 (filed June 17, 2021), this certificate must be filed in conjunction with all briefs submitted in all cases designated with a “CV” docketing number to include Civil I, Collections, Contracts, General Civil, Landlord and Tenant, Liens, Malpractice, Merit Personnel, Other Civil, Property, Real Property, Torts and Vehicle Cases.

I certify that I have reviewed the guidelines outlined in Administrative Order No. M-274-21 and Super. Ct. Civ. R. 5.2, and removed the following information from my brief:

1. All information listed in Super. Ct. Civ. R. 5.2(a); including:

- An individual’s social-security number
- Taxpayer-identification number
- Driver’s license or non-driver’s’ license identification card number
- Birth date
- The name of an individual known to be a minor
- Financial account numbers, except that a party or nonparty making the filing may include the following:

- (1) the acronym “SS#” where the individual’s social-security number would have been included;
- (2) the acronym “TID#” where the individual’s taxpayer-identification number would have been included;
- (3) the acronym “DL#” or “NDL#” where the individual’s driver’s license or non-driver’s license identification card number would have been included;
- (4) the year of the individual’s birth;
- (5) the minor’s initials; and
- (6) the last four digits of the financial-account number.

2. Any information revealing the identity of an individual receiving mental-health services.
3. Any information revealing the identity of an individual receiving or under evaluation for substance-use-disorder services.
4. Information about protection orders, restraining orders, and injunctions that “would be likely to publicly reveal the identity or location of the protected party,” 18 U.S.C. § 2265(d)(3) (prohibiting public disclosure on the internet of such information); *see also* 18 U.S.C. § 2266(5) (defining “protection order” to include, among other things, civil and criminal orders for the purpose of preventing violent or threatening acts, harassment, sexual violence, contact, communication, or proximity) (both provisions attached).
5. Any names of victims of sexual offenses except the brief may use initials when referring to victims of sexual offenses.
6. Any other information required by law to be kept confidential or protected from public disclosure.

Cherie Morganroth
Signature

23-CV-0700
Case Number(s)

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Name

2-12-24
Date

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