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Tutorials on Science and Technology

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Contents

Introduction

Legal cases increasingly involve complex scientific and technological information.[1] For example, mass tort cases that involve exposures to chemical agents, pharmaceutical products, or medical devices require that the court understand scientific, medical, and statistical principles to evaluate the likelihood of injury associated with exposure. Similarly, in cases involving complex technology, decisions about patent infringement often turn on a judge's or jury's understanding of scientific or technological issues. Such issues also arise in criminal law, where judges must evaluate the scientific validity of tools and technologies—such as DNA comparison or brain imaging—to determine the admissibility of certain evidence.

A variety of tools are available to assist judges in managing cases involving such sophisticated science and technology. One such tool is a "science day," "education day," or "technology tutorial." Judges often utilize science days in cases involving pharmaceutical product liability claims, and they commonly request technology tutorials in patent cases to assist with claim construction. But similar strategies can be valuable whenever the merits of a case turn on scientific, medical, or technological information. We adopt the term *science tutorial* to encompass this judicial practice more generally. Science tutorials have developed as a means to ensure judges have the background needed to understand complex case subject matter. Science tutorials provide an opportunity for the parties, experts, or technical advisors to identify and educate the court about scientific issues central to a case or to a set of coordinated or consolidated cases. This guide provides an overview of practical considerations to help judges plan and conduct science tutorials effectively.[2]

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1. *See* Stephen Breyer, *Science in the Courtroom*, 16 Issues Sci. & Tech. 4 (Summer 2000) (discussing cases that increasingly require judges to interpret scientific data and understand new technologies and emphasizing the importance of grounding judicial decision making in sound science).

2. The author would like to thank Joe Cecil and Emery Lee for their helpful advice and comments.

Why Hold a Science Tutorial?

Educate the Court

Science tutorials provide an early opportunity for the court to learn and ask questions about relevant science and technology prior to deciding substantive disputed issues in a litigation. For example, a court may request presentations on general scientific principles, key vocabulary, how products or technologies are designed to operate, or how certain injuries or diseases develop. Science tutorials can also be used to explore different scientific theories or science-based assertions raised by the parties. Learning about the relevant science outside the context of normal motion practice allows for additional time to digest key concepts and provides the court a more fulsome view of the science than the views advanced in legal briefs.

Courts should consider holding science tutorials in cases that involve recent scientific findings or newer technologies, when scientific assertions are central to claims or defenses, or when scientific or technological information is likely to play a large role in later dispositive motions.[3] While science tutorials are utilized most frequently in mass tort, product liability, and patent infringement cases, science tutorials can also be adapted for better understanding complex economic analyses, such as in antitrust cases to review principles of market power and monopolization; methods for modeling the impacts of varying compensation structures or calculating earnings losses in employment discrimination cases; or standard techniques to determine diminished trademark value, goodwill, profit loss, or unjust enrichment in intellectual property infringement cases.[4]

One example of the effective use of a science tutorial outside a typical mass tort or patent litigation context involved a putative class

3. *See* Barbara J. Rothstein & Catherine R. Borden, Managing Multidistrict Litigation in Products Liability Cases: A Pocket Guide for Transferee Judges 35 (Federal Judicial Center 2011) (these are also factors to consider when planning for expert discovery and *Daubert* staging).

4. *See* J. Gregory Sidak, *Court-Appointed Neutral Economic Experts*, 9 J. Comp. Law & Econ. 2, 359–94 (2013).

action brought by a legally blind consumer against an online retailer of art supplies, alleging discrimination arising from the consumer's inability to purchase art products on the retailer's website. The court scheduled a science day "[t]o address the court's current lack of knowledge about website design and the assistive technologies used by the blind."[5] The court further ordered that "experts and demonstrations shall indicate what methods can be used to satisfy plaintiffs' needs, their costs, advantages and disadvantages, and other relevant considerations, such as workable, flexible definitions." During their presentation, plaintiff's attorneys introduced international technical standards for allowing visually impaired individuals to access online content and demonstrated the use of screen reading software that provides auditory cues aloud to visually impaired users across supported websites. Soon after, the parties reached a settlement in which the art retailer agreed to improve its website to conform to international accessibility standards for the visually impaired.[6]

Regardless of the particular subject matter at issue, a science tutorial will likely be more efficient and effective if the court and parties already have an understanding of the basic principles used to evaluate scientific evidence. The *Reference Manual on Scientific Evidence*[7] is an excellent resource in this respect. In order to ensure that the court's educational needs are met, irrespective of topic, presenters should provide scientific information to the court in a neutral fashion and avoid engaging in overt advocacy.

Engage in Effective Case Management

Judges may consider raising the possibility of a science tutorial with the parties early in the litigation, perhaps at the first scheduled case-

5. Andrews v. Blick Art Materials, LLC, 268 F. Supp. 3d 381, 403 (E.D.N.Y. 2017).

6. *See* Andrews v. Blick Art Materials, LLC, No. 17-CV-767, 2017 WL 6542466, at *16 (E.D.N.Y. Dec. 21, 2017).

7. Reference Manual on Scientific Evidence (National Academies Press, 3d ed. 2011).

management or pretrial conference.[8] Early science tutorials can assist with case management by previewing the issues that the court will need to manage later in the litigation. The number and complexity of topics raised during a science tutorial can inform the judge in setting a case schedule that anticipates the amount and type of expert discovery that will be necessary. In addition, science tutorials conducted at the outset may help the judge decide whether certain topics should be "frontloaded" for efficiency—for example, determining whether it would be productive to expedite limited discovery and *Daubert* hearings on general causation. Finally, an early science tutorial reduces the likelihood of a late realization that a judge needs immediate assistance in understanding complex science while faced with a discovery dispute or on the eve of hearings or trial.

Assist with Gatekeeping

Science tutorials can introduce information that will be helpful when deciding early discovery motions and essential when evaluating the validity and reliability of complex scientific evidence as required by *Daubert*.[9]

8. Federal Rule of Civil Procedure 16(c)(2) includes among the list of matters for consideration at any Rule 16 pretrial conference "adopting special procedures for managing potentially difficult or protracted actions that may involve complex issues, multiple parties, difficult legal questions, or unusual proof problems" and "facilitating in other ways the just, speedy, and inexpensive disposition of the action."

9. *See* Manual for Complex Litigation, Fourth § 23.32 (2004) [hereinafter MCL 4th] ("In many cases it may be helpful for the court to be educated at the outset about the science or technology involved, particularly where the expert evidence will involve science and technology that use language foreign to the uninitiated."); Reference Manual on Scientific Evidence, *supra* note 7, at xiii ("Supreme Court decisions during the last decade of the twentieth century mandated that federal courts examine the scientific basis of expert testimony to ensure that it meets the same rigorous standard employed by scientific researchers and practitioners outside the courtroom. Needless to say, this requirement places a demand on judges not only to comprehend the complexities of modern science but to adjudicate between parties' differing interpretations of scientific evidence. Science, meanwhile, advances.").

Encourage the Parties' Cooperation

The court can facilitate early communication, encourage cooperation between the parties, and set a positive tone for any future disputes by ordering that the parties submit a joint proposed agenda for a science tutorial and by requiring that all information be presented in a neutral manner. A science tutorial may also provide an opportunity to reach consensus on certain scientific principles and allow the parties to tailor science-based arguments more narrowly in later adversarial proceedings.

Promote Settlement

Science tutorials may help promote settlement by forcing the parties to discuss the underlying science on which they will eventually rely. If the judge also requests that the parties present their differing or conflicting scientific theories and other disputed issues, then science tutorials may provide a preview of the strengths and limitations of the other parties' science-based claims and defenses. Presentations during science tutorials may also help identify the scope of discovery that will be needed to facilitate productive settlement discussions in the future.

Anticipate the Need for Future Experts

The number of directly conflicting views presented by the parties or their experts during a science tutorial may inform the court about whether an independent expert might be warranted later for on-record testimony pursuant to Federal Rule of Evidence 706.[10] A science tutorial could alert the court to the presence of exceptional circumstances such that a technical advisor might be needed, might help define or limit the role of court-appointed experts when they are

10. Laural L. Hooper, Joe S. Cecil & Thomas E. Willging, Federal Judicial Center, Neutral Science Panels: Two Examples of Panels of Court-Appointed Experts in the Breast Implants Product Liability Litigation 7 (2001) (citing Hall v. Baxter Healthcare Corp., 947 F. Supp. 1387 (D. Or. 1996) (following tutorial day on complex science, the court appointed four technical advisors)).

needed, or might make unnecessary the court's appointing of technical advisors or experts altogether.

Ground Rules for Science Tutorials

No federal rules or procedures mandate a particular framework for science tutorials. Judges can consult with the parties and consider a variety of formats tailored to the science or technology at issue. In 2007, the American Bar Association revised its Civil Trial Practice Standards to include a section on the use of tutorials to assist the court. These standards outline several methods by which a judge may permit or require pretrial (or trial) tutorials to educate the court on technology or complex scientific subject matter. While the ABA Civil Trial Practice Standards are oriented somewhat toward on-record, in-court tutorials, they provide some useful guidance for off-record science tutorials as well. An overview of both these standards and past judicial practices is provided below.

Solicit the Parties' Input

The ABA Civil Trial Practice Standards recommend that the court both "invite the parties to express their views on the desirability of one or more tutorials" and "invite the parties to suggest the subject matter and format of each tutorial." By seeking the parties' input on the potential format, topics, and presenters for a science tutorial, the court can set a tone for cooperation among the parties and ensure all key technical concepts are included in the agenda. Recent judicial practice comports with the ABA's recommendations. For example, in her order establishing interim procedures following coordination of cases in MDL No. 2734, Chief Judge Rodgers ordered that the "parties must submit their views regarding whether a scientific and/or medical tutorial would be helpful to the court in deciding any of the issues involved in this MDL action; and if so, the appropriate format."[11]

11. *See In re* Abilify (Aripiprazole) Prods. Liab. Litig. (MDL No. 2734), Doc. No. 8, Order Establishing Interim Procedures (Oct. 19, 2016).

Select a Format

A variety of formats are possible, including:

- Live presentations or demonstrations.
- Prerecorded presentations or demonstrations.
- Question-and-answer or panel sessions with the judge asking questions.
- Presentations followed by the opportunity for questioning by each party.

If the court allows multiple presenters, consider having the presenters speak back-to-back on a particular topic so that the court can receive a complete picture of a particular issue at once rather than piecemeal throughout the day.

Determine Who Will Present

Presenters can be chosen in a number of ways, including:

- One or more experts selected jointly by the parties.
- One or more experts selected separately by each party.
- Counsel on behalf of each party.
- A combination of counsel and expert presenters.[12]
- One or more experts selected by the court.

Choose Presentation Topics and Request Supporting Written Materials

Topics to be covered during science tutorials can be tailored by the court and the parties to address both the questions and clarifications sought by the judge and any unique circumstances of the litigation.

12. Many possible variations exist. For example, in patent cases, attorneys from both sides may give main presentations, with each side's expert(s) in attendance to be available for questioning by the court. In some formats, each side's experts engage in a dialogue moderated by the court so that the court can ask questions about technical terminology and also determine areas of agreement and disagreement. *See* Peter S. Menell et al., Patent Case Management Judicial Guide § 5.1.2.2.1 (Federal Judicial Center, 3d ed. 2016).

For example, topics might include the characteristics, properties, or design of a product at issue; the diagnosis and treatment of a condition; causes of a medical condition or outcome; a demonstration of how a certain method, software, or product works; an overview of key terminology and published scientific literature relevant to the claims and defenses in a litigation; or a summary of the research and development work or regulatory history surrounding a particular product or class of products.

The court might consider having the parties submit a joint list of proposed topics for a science tutorial for the court to consider. The court can also request that the parties provide copies of their presentations or relevant publications for the court to review in advance. These materials can be used to help the court finalize the topics that should be covered and ensure that the parties focus on scientific principles and not advocacy.

Science Tutors Versus Court-Appointed Experts Under Rule 706

If the court chooses to select the presenter(s) for a science tutorial, the court should consider asking the parties to nominate potential candidates and seek the parties' consensus, if possible. Where the court decides a neutral presenter is needed and the parties' joint recommendations are insufficient, a number of resources are available to help identify independent experts, including leading professional organizations, universities, and major medical centers. The American Association for the Advancement of Science (AAAS) also offers an expert referral system that can assist judges and arbitrators in identifying independent experts for cases that present unique technological issues.[13]

A judge may rely on several different sources of authority in choosing an independent tutor or advisor for a science tutorial, and the use of such court-appointed technical advisors has become in-

13. *See* https://www.aaas.org/page/court-appointed-scientific-experts-case (last visited Mar. 27, 2018); *see also* MCL 4th § 23.32.

creasingly common. Appointment of a technical advisor is authorized under the inherent power of the court. In addition, Federal Rule of Civil Procedure 53 authorizes the appointment of a special master. Finally, Federal Rule of Evidence 706 authorizes the court to appoint a testifying expert for trial. "Many judges prefer to appoint a technical advisor as a 'teaching expert' to give them a tutorial or training session explaining the background scientific techniques and findings at issue."[14] For example, in the phenylpropanolamine (PPA) MDL proceedings, the transferee judge held a two-day training session with a court-appointed technical advisor and invited state judges with related cases to attend.[15] The *Reference Manual on Scientific Evidence* similarly notes that federal judges "increasingly have used case-management techniques such as pretrial conferences to narrow the scientific issues in dispute, pretrial hearings where potential experts are subject to examination by the court, and the appointment of specially trained law clerks or scientific special masters."[16]

Communication and Coordination with State Judges on Related Cases

Science tutorials provide an opportunity to reach out to state colleagues with related cases. An invitation to attend a science tutorial may open the door to further coordination on discovery matters and case schedules. If state judges are comfortable with collaborating, consider holding a joint science tutorial and establishing the format and agenda together. Even when other judges are unavailable to attend a joint science tutorial either in person or by videoconference, a recorded copy of the science tutorial can be provided to state court judges with related cases for their reference.

14. Rothstein & Borden, *supra* note 3, at 39–40.

15. *Id.*

16. Reference Manual on Scientific Evidence, *supra* note 7, at 6; *see also* MCL 4th §§ 11.483, 11.51, and 23.32.

There are a number of recent examples of successful state and federal court coordination for science tutorials. A sample of these include:

- In *In re Ortho Evra Products Liability Litigation* (MDL No. 1742), Judge Katz scheduled a science day in New Jersey Federal Court and invited state court judges handling similar cases to attend.[17]
- In *In re Incretin-Based Therapies Products Liability Litigation* (MDL No. 2542), Judge Battaglia, transferee judge for the MDL, and Judge Highberger, state transferee judge for the California Judicial Council Coordination Proceedings (JCCP), held a joint science day. The parties submitted a joint protocol for science day that outlined the agreed-upon issues to be discussed, the attorneys who would be designated as presenters, and the outstanding issues that remained—for example, whether the parties should submit "Science Background Papers" to the judges in advance.[18]
- In *In re Bextra and Celebrex Marketing Sales Practices and Product Liability Litigation* (MDL No. 1699), Judge Breyer, New Jersey State Court Judge Higbee, and New York Supreme Court Judge Kornreich jointly attended a science day in the U.S. district court in San Francisco, "in which a science tutorial on causation issues involved in the litigation was presented for the benefit of the three judges overseeing the cases in different jurisdictions." While science day was an official, transcribed proceeding, it was not a hearing or motion and was only recorded for informational purposes for the judges' later use.[19]

17. *See* Rothstein & Borden, *supra* note 3, at n.54.

18. *See In* re Incretin-Based Therapies Prods. Liab. Litig., Case No. 3:13-md-02452-AJB-MDD (Nov. 13, 2013), https://www.casd.uscourts.gov/Fallbrook/files/13md2452/doc1/190.pdf (parties' joint submission regarding science day).

19. *See* N.J. Lawyer, Aug. 2011, at 4.

Other Considerations

Recording Science Tutorials

Videotaping or transcribing science tutorials allows the court to review the science or technology at issue as needed over the course of the entire litigation.[20] In addition, a videotape or recording can also be made available to courts of appeals, transferor courts upon remand, or state courts with related cases whenever it might be of assistance.[21]

Limiting Evidentiary Implications to Encourage Candor

To encourage candor, the court should consider directing that science tutorials be conducted off-record and having the parties stipulate that statements made will not bind the parties or be used in later proceedings. An informal review of science days suggests that they are usually held without cross-examination or sworn statements. The court should consider ordering that any statements made during science tutorials will not be used in subsequent *Daubert* hearings as evidence.

Avoiding Gamesmanship and Adversarial Posturing

The court should reiterate as needed that science tutorials should remain educational and should not digress into a "battle of the experts" or a "*Daubert* hearing dress rehearsal." In particular, the court should anticipate that the parties may attempt to insert advocacy-oriented opening statements, data interpretations, or conclusions into presentations. Plaintiffs' counsel may attempt to focus on severe injuries instead of the underlying science to garner sympathy or suggest that defendants have engaged in improper behavior that is not

20. *See* MCL 4th § 33.23.

21. *See* ABA Civil Trial Practice Standards 14–15 (2007 ed.) (citing Altera Corp. v. Clear Logic, Inc., 424 F.3d 1079, 1093 (9th Cir. 2005) (Rymer, J., concurring)).

relevant to the scientific issues and theories involved in the litigation. Defense counsel may attempt to discredit or exclude science that is not favorable to its position or introduce proprietary data that is not publicly available and better-suited for post-discovery hearings than foundational tutorials on science. Both parties may try to present arguments and litigation themes masked as scientific principles.

Holding Patent Science Tutorials Outside of a Markman Hearing Context

Tutorials in a patent context are most often provided in proceedings surrounding *Markman* hearings on claim construction.[22] However, earlier science tutorials that center on understanding key technology or terminology may also benefit the court. A majority of courts tend to find that the most opportune time to hold *Markman* hearings is before the close of fact discovery and prior to expert discovery. Courts may defer *Markman* hearings until the completion of expert discovery or may hold joint claim construction and summary judgment hearings (particularly when patent claim construction proves to be claim or case dispositive) or settle claim construction disputes before trial, during trial, or when setting jury instructions.[23] In contrast to traditional claim construction technology tutorials, an earlier overview on technologies may aid the court in understanding infringement contentions and in making fact discovery and case-management decisions. Science tutorials may also help the parties bring disputed claim terms to the surface, assist the court and parties in narrowing the number of claims to be construed, and provide guidance for determining the most appropriate timing for holding later *Markman* hearings (and claim construction-related technology tutorials).[24]

22. *See* Menell, *Patent Guide*, *supra* note 12, § 5.1.1.

23. *See id*.

24. *Patent Case Management Judicial Guide* notes that such tutorials are typically scheduled within two weeks of a *Markman* hearing. *See* § 5.1.2.2, Table 5.2.

Possible Alternatives to Science Tutorials

Where the need for a science tutorial is unclear or hosting an in-person session is not feasible, the court can consider a number of alternatives to gain a foundation in or seek clarification regarding the scientific or technological subject matter underlying a particular litigation. For example, the court might require that the parties file a preliminary report or summary of the scientific issues at stake, provide the court with a prerecorded video tutorial, or submit a selected number of published scientific studies or background materials that the party believes are relevant to the litigation. The court can then decide whether a science tutorial, or perhaps a court-appointed expert, is warranted.[25]

As another option, the court could request that the parties provide a joint glossary of key scientific or technical terms that are likely to appear in subsequent hearings and briefings. Scientific treatises or other definitive texts on a particular topic may exist from which terms can be taken and on which the parties can agree.

Alternatively, the court could request that the parties each provide an audiovisual recorded tutorial to the court instead of holding live presentations.[26]

As mentioned briefly above, yet another alternative to a science tutorial is to appoint a standing technical advisor or a more formal expert under Federal Rule of Evidence 706.[27]

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25. *See In re* Viagra (Sildenafil Citrate) Prods. Liab. Litig. (MDL No. 2691), Pretrial Order No. 1 (Apr. 12, 2016) (Judge Seeborg ordered both parties to submit a position statement of the critical factual and legal issues in the litigation, largely scientific in nature, and made clear that these statements would not be binding, would not waive claims or defenses, and could not be offered in evidence against a party in later proceedings).

26. *See, e.g.*, *In re* Welding Rod Prods. Liab. Litig. (MDL No. 1535), Case Management Order, Document No. 63 (Dec. 9, 2003) ("The Court has expressed an interest in receiving from counsel a general background tutorial on the technical/science issues presented by this litigation. On or before December 22, 2003, plaintiffs and defendants shall each present to the Court (and serve on each other) an audio/video background tutorial not to exceed one hour in duration.").

27. *See, e.g.*, Rothstein & Borden, *supra* note 3, at 35–41 (describing the varying roles of technical advisors, special masters, and court-appointed experts and

Examples of Court Orders Regarding Science Tutorials

The following cases provide just a few examples of past judicial practice in implementing science tutorials.

- *Comcast Cable Commc'ns, LLC v. Sprint Commc'ns Co.*, No. 2:12-cv-00859-JD, Document 143 (E.D. Pa. 2014): "The technical and highly complex nature of the patents-in-suit already has necessitated a pre-*Markman* and *Markman* hearing lasting five days, which included technology tutorials presented by counsel for the parties on each of the eight patents. At several points during this hearing, the Court noted its unfamiliarity with the technology presented. Accordingly, upon consideration of the materials provided by the parties after having the benefit of tutorials on each of the patents and oral argument on claim construction, the Court concluded that it would be beneficial to have the assistance of a technical advisor prior to rendering its claim construction rulings given the complex and technical nature of the patents-in-suit. . . . [T]he parties submitted a Joint Report Recommending A.J. Nichols, Ph.D. as Technical Advisory on Claim Construction Issues . . . for each of the patents in-suit. The Court, after discussing the case with Dr. Nichols by telephone, concluded that he is completely neutral and has the background and qualifications necessary to address the technical issues in this case. Accordingly . . . the Court appointed Dr. Nichols as Technical Advisor on claim construction issues in this case."

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noting the importance of expressly defining the scope of their role, the circumstances, if any, in which ex parte communication may be appropriate, and the timeframe and compensation to be provided for the engagement); TechSearch, L.L.C. v. Intel Corp., 286 F.3d 1360, 1379 (Fed. Cir. 2002) (approving the use of court-appointed technical advisors in patent litigation context, contrasting technical advisors with Federal Rule of Evidence 706 court-appointed experts, and listing guidelines for the limited role of technical advisor in fulfilling a "tutoring function and providing technical education and background information in the technology to the court").

- *In re Abilify Products Liability Litigation* (MDL No. 2734), Discovery Conference Order No. 1 (Nov. 29, 2016): "The purpose of Science Day is not to test the evidence or weigh the strength of any scientific theories. Rather, Science Day will be conducted in an effort to familiarize the Court with the medical science relevant to the litigation, so that the undersigned is in the best position possible to manage the case as it proceeds. The goal is to educate the undersigned about how Abilify works on the brain and/or body and the scientific theories underlying this litigation. The parties proposed the following parameters for Science Day, which are acceptable and adopted by the Court: (1) one hour per side, (2) off of the record and not binding on the parties, and (3) the presentations limited to scientific evidence equally available to all parties. The parties also proposed that the presentations be made by the lawyers; however, the Court declines this suggestion in favor of presentations by scientists or medical experts. These expert presentations may be guided by the attorney presenting the expert, but there will be no cross examination by opposing counsel . . . Plaintiffs and Defendants will each provide the Court with up to twenty relevant scientific articles and jointly file a proposal for topics to be covered . . . After reviewing these materials and joint proposal, the Court will enter an order outlining the topics to be covered. Additionally, Science Day will be conducted in open court, but the proceeding is intended to be informal and the experts will not be under oath. Any attorney or party may attend either in person or by teleconference. However, no one other than the undersigned, Magistrate Judge Gary Jones, and New Jersey Judge Jim DeLuca will be permitted to ask questions of the experts. The presentations will be recorded, but the recording will only be available to the Court, not the parties."
- *In re Fluoroquinolone Products Liability Litigation* (MDL No. 2642), Minutes for Status Conference, Science Day Protocol (Sept. 23, 2016): "The parties reported that they

reached an agreement over the proposed protocol for science day. The parties' scientists will give powerpoint presentations about fluoroquinolones and peripheral neuropathy for two hours each, with a lunch break in between. The powerpoints will be submitted to the Court prior to science day, but not to the opposing party. The parties proposed that there would be no court reporter, cross examination, or questioning. The Court stated that it would be helpful to have a court reporter create a transcript for the Court's use, to allow for continuity among different law clerks, but that the transcript would not be an official transcript and could not be ordered. The Court set a tentative date for science day for Tuesday, January 17."

- *In re Invokana (Canagliflozin) Products Liability Litigation* (MDL No. 2750), CMO No. 3 (Feb. 23, 2017): "Science Day—Counsel shall continue to meet and confer to schedule a date for a Science Day and the parameters concerning the presentations. The Court intends to invite state court judges presiding over Invokana cases to this Science Day…. Counsel shall advise the Court of the exact date by March 3, 2017 and submit a case management order governing the parameters of Science Day."
- *In re Industrial Print Technologies, LLC Patent Litigation* (MDL No. 2614), Order Setting Initial Case Management Procedures and Scheduling Conference (Apr. 27, 2015): "The parties should be prepared to discuss whether a tutorial prior to the claim construction hearing would be beneficial or helpful, and if so, the timing, format, and scope of any such tutorial, and what materials should be presented with the tutorial."
- *In re Roundup Products Liability Litigation* (MDL No. 2741), Pretrial Order No. 9, Setting Hearing for Science Day (Feb. 2, 2017): "Science Day is intended to offer an informal overview of the basic science underpinning the parties' dispute, with the goal of better preparing the Court to evaluate

the studies and expert testimony that will be presented during October's *Daubert* proceedings. The parties will not be permitted to make presentations on the merits, and they may not discuss the studies or organizations they agree or disagree with. Although each side will make its own presentation, the discussion will be non-adversarial, and parties will not be permitted to cite testimony or materials submitted at Science Day later in this or any other proceeding. The proceedings will not be part of the record."

Science Tutorial Checklist

- ✓ **Identify whether a science tutorial may be helpful** to the court. Relevant questions include:
  - Does the litigation involve recent scientific findings or a new technology?
  - Are scientific assertions likely to play a large role when evaluating the merits of claims and defenses?
  - Are scientific principles, methods, or technologies likely to come into play when deciding later dispositive motions?
  - Is this litigation likely to involve expert testimony regarding large-scale, complex data analyses?
  - Does the complaint, answer, or other early filings include scientific terms or concepts that are unfamiliar to individuals not working in this particular field?
  - Does a key claim or defense rest on the feasibility of developing or implementing an alternative design for a technologically complex product or application?

- ✓ **Solicit the parties' input** on the possible format, topics, and presenters for a science tutorial.
  - Encourage the parties' cooperation.
  - Consider requesting that the parties submit a joint proposed science tutorial agenda and format for the court's review.
  - Emphasize that all information for science tutorials should be presented in a neutral manner.

- ✓ **Communicate and coordinate with state judges** who have related cases regarding a proposed science tutorial.
  - Invite state judges to attend.
  - Schedule a joint science tutorial when state judges are willing to collaborate.
  - Consider developing the science tutorial agenda and format in conjunction with state judges.

- After the science tutorial, provide state judges with a copy of presentation materials and a transcript or recording of the science tutorial for their reference.

✓ **Determine the format.** For example:
- Live presentations or demonstrations.
- Prerecorded presentations or demonstrations.
- Question-and-answer sessions with the judge as questioner.
- Panel sessions with one or more experts.
- Presentations followed by the opportunity for questioning by each party.

✓ **Choose the presenters.** Possible choices may include:
- One or more experts selected jointly by the parties.
- One or more experts selected separately by each party.
- One or more experts selected by the court.
- Counsel presenters on behalf of each party.
- A combination of counsel and expert presenters.

✓ **Select the presentation topics.** For example, topics might include:
- Properties and design of a product at issue.
- Diagnosis and treatment of a certain medical condition.
- Demonstration of how a certain method, application, or product works.
- Overview of key terminology.
- Summary of scientific literature relevant to claims and defenses.
- History of the research and development of a certain invention.
- Regulatory or labeling history of a certain product or class of products.

✓ If the court wishes to review materials in advance, **request that the parties provide copies of the materials that they plan to discuss** during the science tutorial, including their presentation slides or publications referenced therein.

- ✓ **Reiterate** as needed **that scientific information should be provided to the court in a neutral fashion** and that the parties should avoid engaging in overt advocacy in this particular setting.

- ✓ **Arrange for videotaping, audio recording, and/or transcription** of the science tutorial for later reference and use by the court as needed.

- ✓ **Consider directing that any statements** made during science tutorials **will not be used in subsequent hearings or trials as evidence** to encourage candor (and less posturing) by the parties during presentations.

- ✓ **Explore possible alternatives** to science tutorials. For example:
  - Order that the parties file a preliminary report or summary of the scientific issues at stake near the outset of the litigation.
  - Have the parties provide the court with a prerecorded video tutorial.
  - Request that the parties submit a selected number of published scientific studies or background materials relevant to the litigation.
  - Have the parties prepare a joint glossary of key scientific or technological terms.
  - Appoint a standing technical advisor (or a court-appointed expert when extraordinary circumstances arise).

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Ten Steps to Better Case Management: A Guide for Multidistrict Litigation Transferee Judges (Judicial Panel on Multidistrict Litigation & Federal Judicial Center, 2009)

The Federal Judicial Center

About the Federal Judicial Center

The Federal Judicial Center is the research and education agency of the federal judicial system. It was established by Congress in 1967 (28 U.S.C. §§ 620–629), on the recommendation of the Judicial Conference of the United States.

By statute, the Chief Justice of the United States chairs the Center's Board, which also includes the director of the Administrative Office of the U.S. Courts and seven judges elected by the Judicial Conference.

The organization of the Center reflects its primary statutory mandates. The Education Division plans and produces education and training for judges and court staff, including in-person programs, video programs, publications, curriculum packages for in-district training, and Web-based programs and resources. The Research Division examines and evaluates current and alternative federal court practices and policies. This research assists Judicial Conference committees, who request most Center research, in developing policy recommendations. The Center's research also contributes substantially to its educational programs. The Federal Judicial History Office helps courts and others study and preserve federal judicial history. The International Judicial Relations Office provides information to judicial and legal officials from foreign countries and informs federal judicial personnel of developments in international law and other court systems that may affect their work. Two units of the Director's Office—the Information Technology Office and the Editorial & Information Services Office—support Center missions through technology, editorial and design assistance, and organization and dissemination of Center resources.