We are celebrating Chief Judge Randall Rader’s service to the federal court over the past 20 years. His opinions reflect his exceptional background in patent law, experience in the trial and appellate courts, participation in the legislative branch, dedication to teaching, breadth of international scholarship, and thoughtful writing. Therefore, it is fitting that we gain special insight into his opinions and reflect on his over 20 years as a Federal Circuit judge.

Chief Judge Rader’s stellar educational and academic background makes him highly qualified for his work on the Federal Circuit and as Chief Judge. It is no surprise that Chief Judge Rader is an excellent writer. He graduated magna cum laude from Brigham Young University with a degree in English and received his J.D. with honors from George Washington University Law Center in 1978. He maintains an academic connection on the court by serving as a professor of patent law at the George Washington University Law School, Georgetown University Law Center, the University of Virginia School of Law, and other university programs in Tokyo, Taipei, New Delhi, and Beijing. His passion for teaching and excellence in the law has earned him numerous awards.

In addition, Chief Judge Rader’s academic scholarship includes
two books on patent law, a leading textbook on U.S. patent law titled *Cases and Materials on Patent Law*,¹ and *Patent Law in a Nutshell*,² both co-authored with one of my law school professors, Martin Adelman. It is through Professor Adelman’s great teaching that I started on my legal career, and it is at his suggestion that I speak about Chief Judge Rader’s opinions concerning the use of experts in intellectual property cases.

Beyond his academic excellence, Chief Judge Rader has extensive experience on the Hill. He served as counsel in the House for members serving on the Appropriations, Interior, and Ways and Means Committees, and, in the Senate, was Chief Counsel to Subcommittees for the Senate Judiciary Committee. This experience serves him well on the court, and his opinions reflect his statutory deference. To quote Chief Judge Rader’s own words in his *Bilski* dissent, “When all else fails, consult the statute.”³

Prior to serving on the Federal Circuit, Chief Judge Rader was appointed by President Reagan in 1988 to the United States Claims Court, now the U.S. Court of Federal Claims. After his nomination for the Federal Circuit by President George H.W. Bush, he started with the court in August 1990. He became Chief Judge on June 1, 2010, and is setting his mark as the leader of that court.

As a trial judge, I will focus on a familiar topic—the use of experts—and leave the remaining speakers to comment on Chief Judge Rader’s other contributions to patent law. I will highlight Chief Judge Rader’s discussion of the use of expert testimony in three areas: use of an expert in claim construction, use of a court-appointed expert for technical assistance, and limits on an expert’s opinions through the trial court’s role as a gatekeeper.

I begin with one of Chief Judge Rader’s earlier opinions while sitting as a trial judge, *Loral Fairchild Corp. v. Victor Co. of Japan, Ltd.*⁴ Looking back to the early years of Chief Judge Rader’s career on the Federal Circuit, there was nothing called a

---

³ In re Bilski, 545 F.3d 943, 1015 (Fed. Cir. 2008) (Rader, J., dissenting).
Markman hearing until 1995, when the Federal Circuit decided Markman v. Westview Instruments, Inc. Afterwards, Chief Judge Rader was one of the first judges to use an expert in a Markman claim construction hearing. Sitting as a trial judge in Loral, Chief Judge Rader held a two-day bench hearing in August of 1995 on the meaning of the claims with experts from each side. The claims involved an improvement of semiconductor devices. The parties, not surprisingly, disputed certain claim terms. Chief Judge Rader provided that “[t]he extensive briefing convinced this court of the need for expert testimony to enlighten the meaning of claim terms to one of ordinary skill in the art at the time of invention.” As a result, the court heard expert testimony on the meaning of the claim terms. Chief Judge Rader explained:

Extrinsic evidence may demonstrate the state of the art at the time of the invention and thus assist the court in the construction of the patent claims. The extrinsic evidence provides assistance to the court in understanding how someone skilled in the art at the time of the invention would understand the claims.

Following the Supreme Court’s decision in Markman v. Westview Instruments, Inc., the views of the Federal Circuit judges on when and how extrinsic evidence could be considered in claim construction shifted for some years from Chief Judge Rader’s favored use of experts in Loral, to disfavored by the panel in Vitronics Corp. v. Conceptronic, Inc., to permissible for dictionaries in Texas Digital Systems, Inc. v. Telegenix, Inc., until the en banc Federal Circuit decision in Phillips v. AWH Corp. reaffirmed that extrinsic evidence may be useful to confirm what a person having ordinary skill in the art would have understood at

---

5 52 F.3d 967 (Fed. Cir. 1995).
6 Loral, 906 F. Supp. at 802.
7 Id. at 803 (citing Markman, 52 F.3d at 980-81) (citation omitted).
9 90 F.3d 1576 (Fed. Cir. 1996).
10 308 F.3d 1193 (Fed. Cir. 2002).
11 415 F.3d 1303 (Fed. Cir. 2005).
the time of the invention—exactly Chief Judge Rader’s use in *Loral*—while stating that intrinsic evidence is of paramount importance and the starting point of the claim construction analysis.  

Chief Judge Rader’s early use of experts in a *Markman* hearing is consistent with the reported claim construction practice of a majority of federal judges. In a 2008 survey of claim construction by the Federal Judicial Center, 65 percent of federal judges reported that they considered expert testimony or a report from a science or technology expert as extrinsic evidence as a part of the *Markman* process. This widespread use of experts in claim construction adds to the debate of whether claim construction is purely a question of law with the resulting and current *de novo* review, the conclusion of *Cybor Corp. v. FAS Technologies, Inc.* or whether claim construction may involve underlying questions of fact, as reflected by Chief Judge Rader’s dissent from a denial of a petition for rehearing en banc in *Amgen Inc. v. Hoechst Marion Roussel, Inc.* He wrote, “I urge this court to accord deference to the factual components of the lower court’s claim construction.” The panelists may, during the conference, give their views on whether Chief Judge Rader’s dissent is likely to gain traction.

What conclusions do we reach concerning Chief Judge Rader’s use of an expert in claim construction? First, he practices what he preaches by his willingness to serve on the district court. Second, he recognizes that trial judges may need to understand how someone skilled in the art at the time of the invention would understand the claims. Third, he recognizes the possibility that the Federal Circuit might review whether trial courts should be afforded deference in some cases for factual findings in claim construction.

Beyond claim construction, the second area I will address is

---

12 *Id.* at 1319.
14 138 F.3d 1448 (Fed. Cir. 1998).
15 469 F.3d 1039, 1044 (Fed. Cir. 2006) (Rader, J., dissenting).
16 *Id.*
Chief Judge Rader’s opinion concerning the appointment of the court’s own technical experts. The technical complexity of many patent claims may lead trial judges to seek the assistance of court-appointed experts, special masters, or technical advisors for assistance in the case.

Chief Judge Rader, in *Monolithic Power Systems, Inc. v. O2 Micro International Ltd.*,\(^\text{17}\) affirmed the trial court’s decision to appoint its own technical expert. This was an unusually complex case with starkly conflicting expert testimony by the parties’ own experts. Citing to Federal Rule of Evidence 706(a), which permits a court to appoint an expert either “on its own motion or on the motion of any party to assist the trial court,” Chief Judge Rader pointed out that the commentators emphasized that district courts rarely exercised their authority to make such appointments.\(^\text{18}\) After a full review of the record, Chief Judge Rader perceived no abuse of discretion under the regional law that permitted wide latitude in such appointments. He acknowledged that “[t]he predicaments inherent in court appointment of an independent expert and revelations to the jury about the expert’s neutral status trouble this court to some extent” but also noted the trial court’s careful admonitions to the jury concerning use of a court-appointed technical expert.\(^\text{19}\) In *Monolithic Power*, Chief Judge Rader thoughtfully pointed out the potential dangers of an independent expert, carefully evaluated the trial court’s record, and provided guidance to the bench and the bar about a cautious, yet deferential approach to court-appointed technical experts.

The final area involving experts I will highlight is Chief Judge Rader’s consistent reference to the role of the trial court as a gatekeeper under *Daubert* and Evidence Rule 702 to ensure that scientific, economic, or opinion evidence presented by an expert has a sound foundation before presentation to a judge or jury. Interestingly, the *Daubert* case originated in my district before the judge who had his chambers next to mine, the first African-American judge in San Diego County, the beloved Earl Gilliam. When counsel put a French pronunciation to the *Daubert* case, I

\(^\text{17}\) 558 F.3d 1341 (Fed. Cir. 2009).
\(^\text{18}\) *Id.* at 1346-47.
\(^\text{19}\) *Id.* at 1348.
smile and quietly reflect on the fact that to Judge Gilliam, it was simply *Daubert*. The principle was that an expert needed to have a sufficient scientific foundation before offering an opinion on scientific evidence to the jury. In that case, the issue was medical causation of a birth defect.\(^{20}\)

Chief Judge Rader provides district judges with a clear path to follow for the admission of expert testimony when evaluating the economic analysis to support patent damages. Recently, in *IP Innovation L.L.C. v. Red Hat, Inc.*\(^{21}\) Chief Judge Rader applied the relevant standards and granted a motion to strike the testimony and expert report as inadmissible to establish reasonable royalty damages, but permitted the parties to remedy the deficiencies in the expert’s analysis. Chief Judge Rader started out his analysis with the *Daubert* principle that the district courts act as gatekeepers tasked with the inquiry into whether expert testimony is not only relevant, but reliable.\(^{22}\) He then noted that a reasonable royalty contemplates a hypothetical negotiation between the patentee and the infringer at a time before the infringement began under the *Georgia-Pacific Corp. v U.S. Plywood Corp.* factors.\(^{23}\) Although some approximation is permitted, the Federal Circuit requires sound economic and factual predicates for that analysis.\(^{24}\) Where sound economic and factual predicates are absent from a reasonable royalty analysis, Rule 702 requires a court to exclude the unreliable proffered evidence, either before trial on a motion to the court, as Chief Judge Rader did in *IP Innovation*, or on a post-trial motion as occurred in *Cornell University v. Hewlett-Packard Co.*\(^{25}\)

Chief Judge Rader has been careful to require sound foundations for expert opinions at all stages of the litigation. For example, he reviewed the sufficiency of an expert’s opinion at

---


\(^{21}\) 705 F. Supp. 2d 687 (E.D. Tex. 2010).

\(^{22}\) Id. at 689 (citing *Daubert*, 509 U.S. at 589).

\(^{23}\) Id. at 691 (citing *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970)).


\(^{25}\) 609 F. Supp. 2d 279 (N.D.N.Y. 2009).
summary judgment in *Intellectual Science & Technology, Inc. v. Sony Electronics, Inc.*\(^{26}\) Applying the standard of regional circuit law of the Sixth Circuit that was similar to the Federal Circuit’s standard in *Arthur A. Collins, Inc. v. Northern Telecom Ltd.*,\(^{27}\) he concluded that an expert opinion submitted in the context of a summary judgment motion must set forth facts and, in doing so, outline a line of reasoning arising from a logical foundation.\(^{28}\) An expert’s unsupported conclusion on the ultimate issue of infringement will not alone create a genuine issue of material fact. Moreover, a party may not avoid that rule by simply framing the expert’s conclusion as an assertion that a particular critical claim limitation is found in the accused device.\(^{29}\)

When expert methodology is sound, and the evidence relied upon is sufficiently related to the case at hand, disputes about the degree of relevance or accuracy may go to the testimony’s weight, but not its admissibility. As cited in the *per curiam* opinion in *ResQnet.com, Inc. v. Lansa, Inc.*, where Chief Judge Rader was one of the panel judges, “[d]etermining a fair and reasonable royalty is often . . . a difficult judicial chore, seeming often to involve more the talents of a conjurer than those of a judge.”\(^{30}\) The hypothetical negotiation “necessarily involves an element of approximation and uncertainty.”\(^{31}\) But a damages calculation must not be speculative.

When the expert uses speculative damages, Chief Judge Rader has been careful to explain why such speculative testimony should be disregarded. In *Cornell*, an expert used inflated damages calculations without tying those numbers to the permissible economic standards. Chief Judge Rader acknowledged that with proper proof, a party may invoke the entire market value rule to include within the royalty base both infringing and non-infringing

\(^{26}\) 589 F.3d 1179 (Fed. Cir. 2009).
\(^{27}\) 216 F.3d 1042 (Fed. Cir. 2000).
\(^{28}\) *Intellectual Sci. & Tech., Inc.*, 589 F.3d at 1183-84.
\(^{29}\) *Id.* at 1184.
\(^{30}\) 594 F.3d 860, 869 (Fed. Cir. 2010) (quoting Fromson v. W. Litho Plate & Supply Co., 853 F.2d 1568, 1574 (Fed. Cir. 1988)).
\(^{31}\) *Id.* at 881 (quoting Lucent Techs., Inc. v. Gateway, Inc. 580 F.3d 1301, 1325 (Fed. Cir. 2009)).
elements where the smaller component is the basis for consumer demand of the larger product. Chief Judge Rader emphasized that plaintiff “did not heed this court’s warning” that any royalty base proffer must account for the fact that the infringing processor covered by the patent at issue is a small component of a larger server and workstation. 32 He concluded that no reasonable jury could have relied on the inflated royalty base in determining Cornell’s damages award.

Recent Federal Circuit cases where Chief Judge Rader served on the panel, such as Uniloc USA, Inc. v. Microsoft Corp.33 and ResQnet,34 have required sound economic principles for patent damages awards. Interestingly, Chief Judge Rader noted in a recent interview when he took over as Chief Judge that earlier cases such as Rite-Hite Corp. v. Kelley Co., Inc.;35 Grain Processing Corp. v. American Maize-Products Co.;36 Riles v. Shell Exploration & Production Co.;37 and Crystal Semiconductor Corp. v. Tritech Microelectronics International, Inc.38 already stated that sound economic principles must be present before the court would allow a jury finding of damages to stand. For example, in Grain Processing, the court stated, “To prevent the hypothetical from lapsing into pure speculation, this court requires sound economic proof of the nature of the market and likely outcomes with infringement factored out of the economic picture.”39

In sum, Chief Judge Rader’s writings on the subject of the use of experts demonstrate his expertise and wisdom on the Federal Circuit. Chief Judge Rader has consistently advocated that the trial court’s duty is to be a gatekeeper to ensure that sound economic principles are used to avoid presenting junk science to a jury. He carefully assessed the use of technical experts and provided practical guidance for the cautious use of experts with proper

33 632 F.3d 1292 (Fed. Cir. 2011).
34 594 F.3d 860 (Fed. Cir. 2010).
35 56 F.3d 1538 (Fed. Cir. 1995).
36 185 F.3d 1341 (Fed. Cir. 1999).
37 298 F.3d 1302 (Fed. Cir. 2002).
38 246 F.3d 1336 (Fed. Cir. 2001).
39 Grain Processing, 185 F.3d at 1350.
instructions to the jury. His experience at the district court and the Federal Circuit opinions have offered helpful advice for trial judges to assess what expert testimony is admissible and what testimony should be excluded.

As a trial judge, I commend Chief Judge Rader for his willingness to serve as a district judge. Not only does it provide help to the districts, but the circuit judges better understand the issues that may arise in the trial court setting. I also admire Chief Judge Rader’s good nature and sense of humor. In an interview conducted last year, Chief Judge Rader laughingly noted that he might be reversed, like any other trial judge with a case on appeal to the Federal Circuit. Applying sound statistical principles to an analysis of potential reversal rates, I can safely predict that it is far more likely that I would be reversed by the Federal Circuit than Chief Judge Rader. In conclusion, the bench and bar are fortunate to have Chief Judge Rader as a leader in the law and as Chief Judge of the Federal Circuit. We all wish him many more years on the bench, and we look forward to learning from him in the future.