

No.

In the Supreme Court of the United States

W.L. GORE & ASSOCIATES, INC.,

Petitioner,

v.

C.R. BARD, INC., BARD PERIPHERAL
VASCULAR, INC., AND DAVID GOLDFARB, M.D.,

Respondents.

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

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

Title 35 U.S.C. § 116 requires two or more persons who make an invention jointly to apply for any patent jointly and provides that “[i]nventors may apply for a patent jointly even though (1) they did not physically work together or at the same time, (2) each did not make the same type or amount of contribution, or (3) each did not make a contribution to the subject matter of every claim of the patent.” Here the patented invention is a vascular prosthesis made of a novel material. Together with his staff, the developer of the material, having overseen substantial experimentation to narrow the field of potentially useful material characteristics, made a small number of sample tubes for use as prostheses. Expecting at least one of those samples to be successful for its intended purpose—but not yet aware of the exact microscopic properties that allow success—he supplied those few samples to an experimenter who confirmed one sample’s success and identified its microscopic structure.

The question presented is:

Whether it is consistent with Section 116 to deny joint-inventor status to the maker of the successful material, and instead deem the experimenter the sole inventor, on the ground that the maker did not communicate to the experimenter the exact property that turned out to be key.

RULE 29.6 STATEMENT

Petitioner W.L. Gore & Associates, Inc. has no parent corporation and is not publicly traded. No publicly held company owns 10% or more of its shares.

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PETITION FOR A WRIT OF CERTIORARI

OPINIONS BELOW

The opinion of the court of appeals (App., *infra*, 1a-63a) is reported at 670 F.3d 1171. That court's order granting partial rehearing *en banc* (App., *infra*, 104a-106a) is unreported. The panel's opinion pursuant to the *en banc* order (App., *infra*, 91a-103a) is reported at 682 F.3d 1003. The relevant opinion of the district court (App., *infra*, 64a-90a) is reported at 586 F. Supp. 2d 1083.

JURISDICTION

The court of appeals issued its judgment on February 10, 2012, and amended that judgment upon partial rehearing *en banc* on June 14, 2012. App., *infra*, 104a-106a. This Court's jurisdiction is invoked under 28 U.S.C. § 1254(1).

STATUTORY PROVISION INVOLVED

35 U.S.C. § 116 provides in pertinent part:

When an invention is made by two or more persons jointly, they shall apply for patent jointly and each make the required oath, except as otherwise provided in this title. Inventors may apply for a patent jointly even though (1) they did not physically work together or at the same time, (2) each did not make the same type or amount of contribution, or (3) each did not make a contribution to the subject matter of every claim of the patent.

STATEMENT

Congress amended the Patent Act in 1984 to promote recognition of joint inventorship in patents. Section 116 requires patent applicants to list all of their co-inventors; a patent that excludes any joint inventor is invalid. Congress set no floor on who counts as a “joint inventor.” To the contrary, in 1984, it added three criteria that courts *cannot* use as a floor, opting for an accommodating standard over rigid rules.

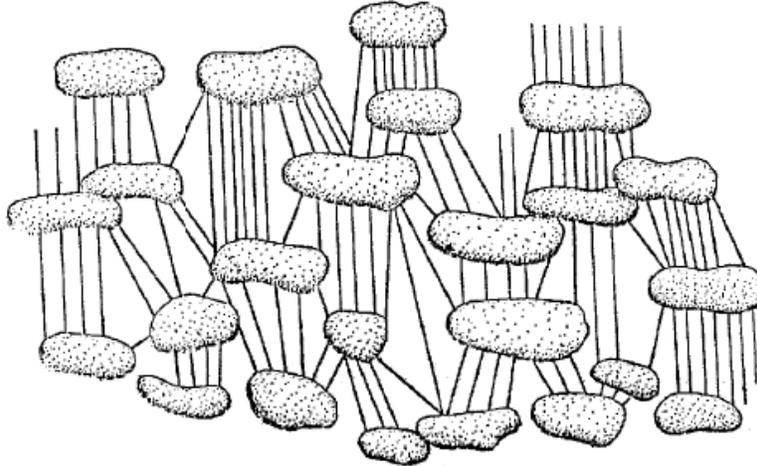
Here, however, the Federal Circuit has created a bright-line floor for joint inventorship that directly contradicts the statute: that, to be a joint inventor, one must *communicate* a key requirement of a particular patent claim. That novel rule excluded the developer of an inventive synthetic material who researched a medical device for more than a year, narrowed the field of prospects, designed and created a sample of the inventive material, and sent that sample to his collaborator—who then recognized a key property (microscopic structure) of the material he was given for testing and claimed the material as his invention alone. The Federal Circuit ruled that the material’s developer did not make a sufficient contribution to the invention because he did not communicate the key property to the collaborator. The result is massive patent-infringement liability for petitioner for now commercializing the very product it supplied to that collaborator in the first place. This Court should correct the Federal Circuit’s unsound, innovation-threatening interpretation of the statute.

A. Introduction

Peter Cooper, an employee of W.L. Gore & Associates (“Gore”), and vascular surgeon Dr. David Goldfarb have each claimed credit for the invention covered by the patent in suit, a prosthetic vascular graft that has saved countless lives and limbs. We will describe the role of each in Section B. Goldfarb prevailed over Cooper in “Interference” proceedings, described in Section C. The result of those proceedings is not challenged here, but the facts found in those proceedings have an important bearing on joint inventorship, which is at issue here. The proceedings below, in which a divided panel rejected Cooper’s claim of joint inventorship, are described in Section D.

B. Gore’s Research Program

This case involves the use of “expanded polytetrafluoroethylene” (known as Gore-Tex®) as a vascular prosthetic. Gore invented Gore-Tex® in 1969, when Mr. W.L. Gore’s son, Bob, recognized that stretching heated polytetrafluoroethylene (known as Teflon®) created a whole new material. Under a microscope, Gore-Tex® consists of solid Teflon® “nodes” connected by a maze of “fibrils.” While air can pass between the fibrils, water cannot, making Gore-Tex® both waterproof and breathable. The basic microscopic structure of Gore-Tex® is shown below.



Gore immediately began to research the use of Gore-Tex® as a medical implant. Vascular prosthetics were an especially promising application. Scientists had long experimented with unexpanded Teflon® to make artificial veins and arteries, but it had limitations. Artificial blood vessels must be porous enough to allow outside tissue to grow into them and form a “neointima,” an inner lining. Teflon® was not porous or sufficiently flexible. Scientists’ efforts to work around those problems made the grafts bulky and apt to leak blood. Gore-Tex®, with its porous but watertight node-fibril structure, promised the benefits of unexpanded Teflon® without its drawbacks.

Gore launched its vascular prosthetic research program in 1971. See C.A. App. A39549.¹ Its

¹ Every fact recited in this Statement comes from contemporaneous documents, from respondent Goldfarb’s own testimony, or from findings in the earlier interference proceeding that Bard has not challenged. The cited facts thus are not subject to genuine dispute.

experiments had two parts. First, Gore staff would vary attributes of the Gore-Tex® tubes they made. Peter Cooper, who managed Gore's Arizona plant, oversaw that process. App., *infra*, 136a. Second, cooperating surgeons outside Gore would implant the grafts in animals. By the middle of 1972, Gore had recruited more than a half-dozen surgeons to participate. C.A. App. A39573-39575. When the surgeons reported what worked and what did not, Cooper had Gore staff make a new, refined batch of tubes for another round of implantation. Neither Gore nor the surgeons could do these experiments on their own: Gore lacked animals and surgical know-how, and the surgeons could not make custom Gore-Tex® tubes.

The research program bore fruit. Cooper and the surgeons quickly determined what traits allowed Gore-Tex® to suture well. For example, they learned that the thickness of the tube walls had to match that of the natural vein, even though these “thin-wall” tubes were harder to make. C.A. App. A39551.

Cooper and a team of surgeons published a paper in 1972 reporting their findings. Their tubes, they explained, were easy to handle in the operating room. C.A. App. A14263. They also charted a clear path for further research. Like Teflon®, the team's Gore-Tex® tubes were not porous enough for tissue ingrowth. So far, tissue was growing in from the ends of the grafts but not through the graft walls. But there was hope—“[t]he interstices or pore size can be controlled in production.” *Id.* at A14267. Gore could make the tubes more porous.

Cooper followed up his paper with a “three-structure experiment.” This shifted his focus away

from the tubes' surgical properties and toward their microscopic structure ("interstices or pore size," *ibid.*), which he and his colleagues had begun to inspect. C.A. App. A39602, A39636. He explained to a coauthor: "two tubes which are identical in every other respect (density, dimensions, etc.) can have significantly different structures." *Id.* at A39606. The goal was to determine which structure would allow the right amount of tissue ingrowth. The coauthor responded that Cooper had "open[ed] up a whole new Ball Game." *Id.* at A39608.

Cooper's three "structures" had low, medium, and high porousness. App., *infra*, 110a. To calculate porousness, Gore staff measured the air pressure required to force bubbles through the tube. *Ibid.* The larger the pore size, the less air pressure needed to push bubbles through; that is, the more porous. Cooper called his large-pore structure "poker-chipped" because one could feel ridges on the tube, like a stack of poker chips. C.A. App. A39643. In addition to the bubble test, Gore staff ordered photomicrographs of all three structures. *Id.* at A39610.

In November 1972, Cooper sent four collaborators the three kinds of tubes. App., *infra*, 109a-110a. Two collaborators sent back slides and results in April 1973. *Id.* at 111a. One surgeon, Dr. Sharp, found that the large-pore, "poker-chipped" structure succeeded, while the other two largely failed. The other, Dr. Kelly, found that, although all of his grafts clotted, the large-pore grafts had tissue ingrowth. In short, the large-pore tubes outperformed the others; the three-structure experiment had a winner.

Cooper conceived the invention at issue based on the results of the three-structure experiment. App., *infra*, 119a. He explained in his lab book on May 1, 1973: “Tissue has invaded Gore-Tex . . . with most separations between nodes at about 50-100 microns.” *Id.* at 112a.² What he was observing—he attached photomicrographs—was that the “large-pore” tubes tended to have a greater distance between nodes. He thus was the first to record this new variable, which the patent in suit (issued years later) calls “average distance between nodes.”³ The parties have called it “internodal distance” or “fibril length.” The patent is about this variable—it must be in a certain range for the prosthetic to work.

Respondent David Goldfarb is a vascular surgeon who joined the Arizona Heart Institute in early 1973. App., *infra*, 113a. Goldfarb did not know about Gore-Tex®; he planned to test other synthetic prosthetics in animals. *Id.* at 49a-50a. Cooper met with Goldfarb in February 1973 and explained his project as he had with the other surgeons, and Goldfarb agreed to test Gore-Tex®. *Id.* at 113a. The contemporaneous Gore shipping log indicates that three tubes were given to Goldfarb in February. C.A. App. A39819. Goldfarb thus joined the ranks of surgeons recruited by Gore to implant Gore-Tex® prosthetics in animals and report their results.

Cooper met Goldfarb while waiting for the results from the surgeons he had already furnished the

² Cooper’s formal date of conception is June 5, the date on which his lab book entry was corroborated. App., *infra*, 119a.

³ U.S. Patent 6,436,135, reproduced at C.A. App. A13449-61. Claims 20 through 27 are at issue.

three structures for testing. Once the results from Dr. Sharp arrived, in April 1973, Cooper sent Goldfarb an update. He sent four six-inch tubes (a pair of one material, a pair of another material) that “represent[ed] the latest attempt to achieve satisfactory patency rates.” App., *infra*, 144a.⁴ Based on the just-received results, Cooper indicated that those new tubes should work as vascular grafts. *Ibid.* He also enclosed two research reports: a paper abstract by one of the surgeons reporting that “[h]igh porosity [Gore-Tex] grafts give better neointimal healing” (C.A. App. A39698) and Dr. Sharp’s letter detailing the three-structure experiment and his results (see App., *infra*, 145a).

In May, Goldfarb, as requested by Cooper, implanted grafts cut from one pair of the April tubes. Although Goldfarb testified that in general Gore’s tubes did not have uniform microstructure along their length and that he did not use parts of the tubes that Gore had perforated with sewing machines in an experimental effort to make them more porous, the undisputed fact remains that Goldfarb used two-thirds of this pair. C.A. App. A22419-22420, A39819. In mid-June to early July, Goldfarb observed successful results with one of those grafts. Examining his results, he recognized the importance of fibril length, after Cooper had already separately recognized the same thing. App., *infra*, 113a-114a.

⁴ A graft is “patent” if it permits proper blood flow. In this context, a patent graft is a successful graft. App., *infra*, 110a-111a.

C. The Interference Proceedings

Cooper (in April 1974) and Goldfarb (in October 1974) filed separate patent applications, offering different versions of the invention. Both applications covered the physical material (an artificial vascular prosthesis), not surgical techniques or other ways of using the material.

Inventorship was among the questions that arose about the applications. Both applications went to the same patent examiner for separate *ex parte* examination. On Cooper's record and claims, the examiner concluded that Cooper was the sole inventor. C.A. App. A45981. On Goldfarb's record and claims, however, he concluded that Goldfarb was the sole inventor. *Id.* at A19290.

In 1983, the PTO declared an "interference," to determine whether Cooper or Goldfarb was the true first inventor. See 35 U.S.C. § 135. In the interference proceeding, each asserted sole inventorship. As Bard confirmed in oral argument to the Federal Circuit, the PTO did not consider joint inventorship in the interference.

The Board of Patent Appeals and Interferences rendered its decision in 1995. The only question was priority, which turns on "conception" and "reduction to practice." See 35 U.S.C. § 102(g). "Conception" is the formation of "a definite and permanent idea of the complete and operative invention." App., *infra*, 118a. A "reduction to practice" is (1) an embodiment of the invention that (2) works for its intended purpose. *Ibid.* For Goldfarb to win priority, he had to show *either* that he conceived the invention first (and diligently reduced it to practice) *or* that, although Cooper conceived first, Cooper did not

diligently reduce that conception to practice. 35 U.S.C. § 102(g). Goldfarb won only by the second route.

Thus, the Board held that Cooper conceived the invention first on June 5, 1973, as proven by the entry in his lab book. In the eyes of the Board, Cooper's recognition that fibril length played a key role and that fibril lengths in the range of 50 to 100 microns promoted tissue ingrowth amounted to a definite idea of the invention. See App., *infra*, 119a. The Board rejected Goldfarb's claim that Goldfarb had conceived the invention months earlier.

The Board held that the results of Cooper's three-structure experiment were not reductions to practice because each set of results had one element of a reduction to practice but not the other. The grafts that Dr. Sharp implanted had succeeded (element 2). But Cooper had not confirmed that they had a fibril length within the critical range—that is, that they embodied the invention (element 1). App., *infra*, 120a. By contrast, Cooper had confirmed that Dr. Kelly's grafts had the proper fibril length (element 1), but those grafts clotted (element 2). *Id.* at 119a-120a. Cooper maintained that his measurement of the grafts that he sent Dr. Kelly should apply to the grafts that he sent Dr. Sharp; both sets of tubes had the same "poker-chipped" structure. The Board disagreed, finding insufficient proof that the two grafts were identical. *Id.* at 122a.

As to Goldfarb, the Board held that he both conceived the invention and reduced it to practice during the months after Cooper's conception. App., *infra*, 137a. In June and July, Goldfarb had success with one of the April 1973 tubes that Cooper had

supplied, and he recognized the importance of fibril length around that time. *Id.* at 123a. The Board dated Goldfarb's conception and reduction to practice "by July of 1973." *Id.* at 116a.

Goldfarb's success came with one graft in only his second test animal. See C.A. App. A22419-22420. Goldfarb's successful graft using one of Cooper's April tubes had a fibril length within the critical range. App., *infra*, 114a. Indeed, *all* of the preserved grafts that Cooper sent Goldfarb in April 1973 proved to be within that range and were therefore embodiments of the invention. See C.A. App. A23905-23906, A24570, A39819. In sum, the Board found that Cooper conceived the invention by June 1973, based on his May 1 lab book entry, but that Goldfarb had both conceived and reduced to practice by July 1973. It therefore awarded priority to Goldfarb.

The Federal Circuit affirmed the conception and reduction-to-practice holdings, but remanded for consideration of one crucial issue. App., *infra*, 107a-132a ("*Cooper I*"). It recognized that Goldfarb's reduction to practice might properly inure to Cooper's benefit, so that it would become *Cooper's* reduction to practice—and give him priority (given his earlier conception) as the sole inventor. On remand, however, the Board held that there was no inurement, and the interference proceeding returned to the Federal Circuit. *Id.* at 135a.

The Federal Circuit affirmed on a narrow ground—that there was no inurement because Cooper did not "convey any information or requests regarding fibril length" to Goldfarb. App., *infra*, 146a ("*Cooper II*"). Cooper, the court recognized, had

sent Goldfarb a special set of tubes, with a letter explaining that the tubes were the “latest attempt” to achieve success; Cooper had even showed Goldfarb *why* the tubes were special, enclosing the results of the three-structure experiment. *Id.* at 145a. That was enough for partial inurement: the court determined that Goldfarb’s confirmation of the suitability of the material for vascular grafts inured to Cooper’s benefit. *Id.* at 144a. Had Cooper also mentioned fibril length to Goldfarb, the Federal Circuit held, Goldfarb’s work would have fully inured to Cooper’s benefit, and Cooper would be the *sole inventor*. Because Cooper did not mention fibril length to Goldfarb, there was no inurement of the reduction to practice *in toto*, which remained Goldfarb’s, not Cooper’s. *Id.* at 146a.

That decision ended the interference, and the PTO granted the patent to Goldfarb, who assigned it to respondent Bard. App., *infra*, 81a-82a. As Bard acknowledged to the Federal Circuit at argument, because parties to this interference were not permitted to raise any claims of joint inventorship, no court had yet ruled on that issue, presented here.

D. The Proceedings Below

Bard brought this action in 2003, alleging that Gore’s Gore-Tex® prosthetic products infringe its patent. App., *infra*, 9a. One of Gore’s defenses was that the patent was invalid under 35 U.S.C. § 102(f) because it did not list Cooper as a joint inventor. Under 35 U.S.C. § 116, joint inventors “shall apply for patent jointly.” Rather than setting a floor for joint inventorship, the statute provides:

Inventors may apply for a patent jointly even though (1) they did not physically work together

or at the same time, (2) each did not make the same type or amount of contribution, or (3) each did not make a contribution to the subject matter of every claim of the patent.

Ibid. A jury returned a verdict for Bard.

“Inventorship is a question of law,” which a court is to “review[] without deference,” although any underlying factual findings are reviewed only for clear error. *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998). Gore filed a post-verdict motion for judgment as a matter of law on joint inventorship, arguing that the indisputable facts meet the joint-inventorship standard. The district court rejected the motion in a three-paragraph ruling. App., *infra*, 78a-79a. Without citation, it held that joint inventorship sets a *higher standard* than inurement. *Id.* at 79a (“[J]oint inventorship requires more of a showing of concerted effort between co-inventors than is required . . . for inurement.”). Noting that the Federal Circuit had already resolved inurement in *Cooper II*, the court summarily denied Gore’s motion.

A divided panel of the Federal Circuit affirmed, likewise echoing its earlier “communication” test for inurement. After reciting the basic law of joint inventorship, the court quoted its inurement holding in *Cooper II* at length. App., *infra*, 14a-15a. “This lack of communication” from Cooper to Goldfarb about fibril length, the majority held, sufficed to support the jury’s verdict on *joint inventorship*. *Id.* at 15a. But inurement and joint inventorship are very distinct concepts. One bars a scientist from the patent altogether; the other requires that contributors share. Additionally, the broad inventorship

language of Section 116 forbids the kind of strict rules that may apply to inurement. The same facts could support one theory but not the other. Still, the majority chided Gore for “recast[ing] its argument from inurement in the Interference to joint inventorship in the present case” and observed that the facts were the same. *Id.* at 18a. Seeing only the same facts, the majority again brushed off Cooper’s contributions because he had not “communicated th[e] key requirement” of fibril length to Goldfarb. *Ibid.*

Judge Newman dissented. She recognized that Cooper was at least a joint inventor, citing his lengthy collaborative research program with the surgeons, culminating in the creation of the grafts that Goldfarb used. App., *infra*, 45a-51a, 57a, 59a. She further observed that this Court’s holding in *General Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1945), bars Goldfarb from sole inventorship, as his only contribution was to detect latent qualities in a product others had discovered. App., *infra*, 61a. Finally, she warned that the majority’s holding threatened to disrupt “routine testing relationships.” *Id.* at 62a.

On a petition for rehearing, the *en banc* Federal Circuit vacated part of the majority opinion. While denying rehearing as to joint inventorship, it remanded to the panel on the other issue that the petition raised, willful infringement. App., *infra*, 105a-106a. The panel corrected its statement of the test for willfulness, holding that it includes an objective prong that is a question of law (*id.* at 94a), and remanded to the district court to apply that test.

Judge Newman dissented from the remand. She maintained that “willful infringement is not supportable,” as a matter of law, in light of Cooper’s contributions. App, *infra*, 103a.

REASONS FOR GRANTING THE PETITION

The opinion below has declared a novel and rigid rule for establishing joint inventorship, leading to a blatantly incorrect result. According to the panel majority, Cooper could not be a joint inventor because he failed to communicate the “key requirement” of the invention to Goldfarb. App., *infra*, 18a. The Federal Circuit thus made one particular type of contribution a prerequisite to joint inventorship. That holding is contrary to the plain text of the Patent Act, which explicitly states that joint inventors need not “make the same type . . . of contribution.” 35 U.S.C. § 116. It is yet another “[r]igid . . . rule[]” of the sort this Court has rejected in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007), and in other recent cases. The Federal Circuit also contradicted (i) this Court’s precedent; (ii) persuasive precedent from other courts; and (iii) even some of its own precedent in undervaluing the contribution of Cooper and overvaluing the contribution of Goldfarb.

The question presented is important and deserves this Court’s review. The Federal Circuit’s misguided new rule, unless corrected before it takes root, will have harsh real-world consequences. As Congress recognized in its 1984 amendments to Section 116, the realities of modern team research demand a liberal joint-inventorship standard. This Court, which has yet to address Section 116, should nip the

Federal Circuit's error in the bud to forestall these harmful results.

More generally, the proper standards for joint inventorship are highly consequential and much in need of authoritative clarification. "Joint inventorship is quite common," Mark A. Lemley, *Point of Novelty*, 105 NW. U.L. REV. 1253, 1261 (2011), and it has long presented notoriously thorny legal issues. One much-cited opinion has described joint inventorship as "one of the muddiest concepts in the muddy metaphysics of the patent law." *Mueller Brass Co. v. Reading Indus., Inc.*, 352 F. Supp. 1357, 1372 (E.D. Pa. 1972); see *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998) ("The difficulty of determining legal inventorship has been recognized."). Commentators have expressed concerns about the "poor predictability" of results in joint-inventorship cases, 3 MOY'S WALKER ON PATENTS § 10.23 (4th ed.), and the lack of "cogent standards." Lawrence M. Sung, *Collegiality and Collaboration in the Age of Exclusivity*, 3 DEPAUL J. HEALTH CARE L. 411, 428 (2000). This Court has not explicitly considered joint-inventorship standards in the modern era, and the lower courts, as well as researchers assessing possible collaborations, would greatly benefit from the Court's guidance.⁵

⁵ The case is currently in an interlocutory posture, given the remand of willfulness for reconsideration. App., *infra*, 94a. But that is no basis for denying review. The proper joint-inventorship standard has dramatic case-specific significance regardless of willfulness. At the same time, this Court's recognition of Cooper's joint inventorship would not only correct a major legal error but moot the willfulness remand. This "Court has unquestioned jurisdiction to review interlocutory judgments of federal courts of appeals" (EUGENE GRESSMAN ET

I. The Federal Circuit’s Novel And Rigid Joint-Inventorship Rule Conflicts With The Patent Act, This Court’s Guidance, And Other Case Law

A. Both The Statute And This Court’s Decisions Preclude The Rigid New Requirement The Federal Circuit Has Adopted

“This Court has more than once cautioned that courts should not read into the patent laws limitations and conditions which the legislature has not expressed.” *Bilski v. Kappos*, 130 S. Ct. 3218, 3226 (2010) (internal quotation marks omitted). In this case, the Federal Circuit has gone further by imposing a limitation that the legislature has expressly prohibited.

The majority below explained its decision on the joint-inventorship issue by observing that:

Cooper did not communicate to Goldfarb that the internodal distance was the key to creating successful grafts, and, therefore, the jury could have reasonably concluded that Cooper’s collaboration with Goldfarb did not contribute to the conception of the invention in a significant manner.

App, *infra*, 14a (emphasis added). It reiterated the point a few pages later, noting that:

[T]here is still no evidence that Cooper either recognized or appreciated the critical nature of

AL., SUPREME COURT PRACTICE 280 (9th ed. 2007)), and review is appropriate “where the opinion of the court below has decided an important issue, otherwise worthy of review, and Supreme Court intervention may serve to hasten or finally resolve the litigation” (*id.* at 282).

the internodal distance *and communicated that key requirement to Goldfarb* before Goldfarb reduced the invention to practice. Accordingly, substantial evidence supports the jury's finding

Id. at 18a (emphasis added). The Federal Circuit thus concluded that a contribution to an invention, no matter how significant, does not rise to the level of joint inventorship unless it includes a communication of the “key requirement” of the invention.⁶

That rule directly conflicts with the language of 35 U.S.C. § 116, which expressly provides that:

Inventors may apply for a patent jointly even though (1) they did not physically work together or at the same time, (2) *each did not make the same type or amount of contribution*, or (3) each did not make a contribution to the subject matter of every claim of the patent.

(Emphasis added.) Section 116 plainly states that different types of contributions can establish joint inventorship, yet the Federal Circuit held that only

⁶ Bard has denied that the opinion imposes a communication requirement, seizing on the fact that the lower court quoted a lengthy passage from *Cooper II*, which includes the phrase “Cooper was not required to communicate his conception to Goldfarb.” Appellees’ Resp. to Pet. Reh’g 12 (quoting App., *infra*, 15a, in turn quoting App., *infra*, 146a). This argument mistakenly conflates *the conception* of an invention with *the key requirement* of an invention. *Cooper II* made precisely this distinction in the quoted sentence, noting that Cooper was not required to communicate the conception to Goldfarb but holding that “his failure to convey any information or requests regarding fibril length” doomed his inurement claim. App., *infra*, 146a.

one type of contribution—a communication of an invention’s key requirement—will suffice. Such a rigid rule, like rigid rules the Federal Circuit has announced in other areas of patent law, deserves this Court’s correction.

The far-reaching error in the decision below is further illustrated by *Monsanto Co. v. Kamp*, 269 F. Supp. 818, 824 (D.D.C. 1967), a decision whose rationale Congress adopted in its 1984 amendment of Section 116. See Comm. on the Judiciary, 98th Cong., *Section-by-Section Analysis of H.R. 6286, Patent Law Amendments Act of 1984*, 130 Cong. Rec. 28,069, 28,071 (1984) [hereinafter *Section-by-Section Analysis*] (the relevant portion of Section 116 “adopt[s] the rationale of decisions such as *Monsanto v. Kamp*”).

The *Monsanto* court explained that each co-inventor “needs to perform but a part of the task,” that “[i]t is not necessary that the entire inventive concept should occur to each of the joint inventors,” and that one co-inventor “may do more of the experimental work while the other makes suggestions from time to time.” 269 F. Supp. at 824. It also quoted a decision stating that the “conception of the entire device may be due to one,” but another can be a joint inventor if he “makes suggestions of practical value, which assisted in working out the main idea and making it operative.” *Ibid.* (quoting *De Laski & Thropp Circular Woven Tire Co. v. William R. Thropp & Sons Co.*, 218 F. 458, 464 (D.N.J. 1914)).

Section 116 and *Monsanto* clearly reject the notion that any particular kind of contribution is a *sine qua non* of joint inventorship. Until the decision below, the Federal Circuit’s decisions rejected that

notion as well, noting that Section 116 “sets no explicit lower limit on the quantum or quality of inventive contribution required for a person to qualify as a joint inventor,” *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1473 (Fed. Cir. 1997), that “the qualitative contribution of each collaborator is the key,” *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1229 (Fed. Cir. 1994), and that “each [co-inventor] needs to perform only a part of the task which produces the invention.” *Ethicon*, 135 F.3d at 1460. “One of the few things that is clear about joint inventorship determinations is that there is ‘no bright-line standard’” Adam J. Sibley & Rodney L. Sparks, *The Difficulty of Determining Joint Inventorship, Especially With Regard to Novel Chemical Compounds and Their Applications*, 8 LOY. L. & TECH. ANN. 44, 47 (2009) (quoting *Fina Oil*, 123 F.3d at 1473).

Consistently with these principles, the Federal Circuit has developed certain guidelines for the joint-inventorship inquiry. In particular, it has identified several categories of contributions that are *not sufficient* for joint inventorship. For instance, it is not enough to suggest a result to be accomplished, without a means of accomplishing it, *Natron Corp. v. Schukra U.S.A., Inc.*, 558 F.3d 1352, 1359 (Fed. Cir. 2009); to provide information that is already in the prior art, *id.* at 1357; *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1362 (Fed. Cir. 2004); or merely to assist the actual inventor *after* conception, *Ethicon*, 135 F.3d at 1460. (All of those requirements are easily met in this case.⁷) The opinion

⁷ Far from merely suggesting a result, Cooper actually furnished Goldfarb with the embodiment of the invention.

below leaves behind both those precedents and the statutory language by identifying a single category of contribution that is *necessary* for joint inventorship.

Furthermore, by requiring the communication of an *insight*, the opinion below conflicts with the well-established proposition that *experimental* contributions can be sufficient for joint inventorship. *Fina Oil*, 123 F.3d at 1473. This Court has stated that experimental contributions like those of Cooper suffice to confer the status of inventor, and that an exact understanding (let alone communication) of *why* an experiment worked is unnecessary:

A patentee may be baldly empirical, seeing nothing beyond his experiments and the result; yet if he has added a new and valuable article to the world's utilities, he is entitled to the rank and protection of an inventor. And how can it take from his merit that he may not know all of the forces which he has brought into operation? It is certainly not necessary that he understand or be able to state the scientific principles underlying his invention

App., *infra*, 143a. Cooper sent Goldfarb the embodiment of the invention *before* Goldfarb conceived the invention using that embodiment. And the tubes sent by Cooper were the result of lengthy experimentation and, as the case now stands, were not in the prior art (Gore's prior-art defenses having been rejected). Indeed, Bard cannot possibly claim that the April 1973 tubes were in the prior art; if they were, *all* that Goldfarb did was recognize a property of a prior-art product, which is insufficient for inventorship. See *Jewel Incandescent*, *supra*. Only because the tubes Cooper designed and created were not in the prior art could there be a patentable invention at all—leaving the question whether Cooper made significant contributions to that invention.

Diamond Rubber Co. v. Consol. Rubber Tire Co., 220 U.S. 428, 435-36 (1911).

The panel majority’s holding also runs afoul of this Court’s repeated warnings that the Federal Circuit should not apply rigid rules at odds with broader standards enacted in the patent laws. See, e.g., *KSR*, 550 U.S. at 415 (“We begin by rejecting the rigid approach of the Court of Appeals.”); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1302-03 (2012); *Bilski*, 130 S. Ct. at 3226; *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391-93 (2006).

The *KSR* decision, which rejected the Federal Circuit’s approach to obviousness, is particularly instructive. Much like joint inventorship, obviousness requires assessing the named inventor’s conception in light of what others had done. The Federal Circuit, in analyzing obviousness, had too readily found the named inventor’s entitlement to a patent by undervaluing the prior contributions of others through a blinkered “overemphasis on . . . published articles and the explicit content of issued patents.” 550 U.S. at 419. That narrow focus on express communications failed to reflect “[t]he diversity of inventive pursuits.” *Ibid.* Ultimately, the Federal Circuit erred by adopting “[r]igid preventative rules that deny factfinders recourse to common sense.” *Id.* at 421.

The Federal Circuit has now made the same mistakes for joint inventorship. Once again, it has undervalued the contributions of others, and in the same way. It has focused decisively on the “explicit content” of communications—this time, between collaborators—and adopted a rigid rule that excludes

common sense in evaluating the contribution made by others to the claimed invention.

Any common-sense perspective on this case would indicate that Cooper's contribution was "significant." Cooper narrowed down the universe of potential grafts, designed and created an embodiment of the invention, and sent it to Goldfarb for testing with the advice that he expected it to be successful.⁸ Within weeks of Goldfarb's receiving the embodiment of the invention from Cooper on April 19, 1973, *both* Cooper and Goldfarb had conceived the invention. Cooper did so by June 5, 1973, and Goldfarb had done so by July. App., *infra*, 136a-137a. Common sense makes it clear that a contribution that enabled two individuals each to take the final step and complete the conception within such a short period was, itself, a significant contribution. Only the artificial constraint imposed by the opinion below stands in the way of the conclusion that this sort of division of labor is precisely what Section 116 contemplates. See *PerSeptive Biosystems, Inc. v. Pharmacia Biotech, Inc.*, 12 F. Supp. 2d 69, 85 (D. Mass. 1998) (observing that similar facts represented "precisely the kind of collaboration and synergy the 1984 amendment was intended to promote"), *aff'd on other grounds*, 225 F.3d 1315 (Fed. Cir. 2000).

Judge Saris's compelling analysis in *PerSeptive*—dealing with a fact pattern strikingly similar to this case—illustrates the error of denying joint-inventor status to those who design products and pass them

⁸ Indeed, Goldfarb admitted at trial that he could not have made the invention without the assistance and cooperation of Gore employees. C.A. App. A9686.

on to others for further insights into their properties. Two teams of scientists had “collaborated in developing and testing the media essential to perfusion chromatography.” 12 F. Supp. 2d at 82. One team knew that 4000-angstrom particles had “desirable properties in performing high speed liquid chromatography,” and could replicate those particles, *id.* at 83. They hired another team to study the particles. *Id.* at 85. That second team—the named inventors on the patent at issue—“examined the particles under an electron microscope” and discovered the feature that made them succeed for chromatography: throughpores with “a sufficiently large diameter.” *Id.* at 85, 83.

The court determined that the second team’s discovery of the properties of the previously manufactured particles could not convey sole inventorship: “the discoverers of the latent qualities in the packing material developed and manufactured by another cannot claim sole inventorship within the meaning of the patent laws.” *Id.* at 83-84. Similarly, but for the Federal Circuit’s announcement of a new and rigid standard, Goldfarb could not claim sole inventorship for his discovery of the latent qualities in the tubes Cooper sent to him. Just as in *PerSeptive*, Cooper provided Goldfarb with the “critical scientific starting point.” *Id.* at 85. As Judge Saris recognized, the Congress that amended Section 116 did not intend for such a contribution to be ignored.

B. The Decision Below Conflicts With This Court’s *Jewel Incandescent* Decision

Under any proper interpretation of the joint-inventorship test, the relative significance of Cooper’s and Goldfarb’s contributions to the

invention must be assessed. A joint inventor “must make a contribution to the conception of the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full invention.” *Fina Oil*, 123 F.3d at 1473. Here, the Federal Circuit not only undervalued the contribution of Cooper; it overvalued Goldfarb’s contribution in conflict with the principle of *General Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242 (1945), that it is not invention to recognize a property of a product discovered by another.

To review, Cooper and his team launched a research program in 1971, working with a number of surgeons. See C.A. App. A39549. The research gradually yielded important results. In 1972, before even meeting Goldfarb in February 1973, Cooper had launched the three-structure experiment, which aimed to promote tissue ingrowth by varying the tubes’ microstructure, to narrow the field of potentially useful graft materials. App., *infra*, 109a-110a.

With the program’s results in hand, Cooper and his team at Gore, in April 1973, created the embodiment of the invention and sent it to Goldfarb. Providing just two pairs of six-inch tubes, and enclosing up-to-date research, Cooper wrote that the tubes “represent[ed] the latest attempt to achieve satisfactory patency rates in small artery prosthetics” and that he expected that the material would be suitable as a vascular graft. App., *infra*, 144a. None of this was Goldfarb’s idea.

What was left for Goldfarb, then, was to test the Cooper-supplied embodiment by implanting it in an animal (as requested by Cooper), to confirm a success, and to observe microscopically that the

embodiment's fibril length was key to the success (an observation Cooper himself had already made a few weeks after sending the tubes to Goldfarb).⁹ Goldfarb did not have to discover which of a large number of tubes would be successful. Rather, from just four 6-inch (15-centimeter) tubes Cooper sent him in April, he set aside two and tested two, and from those two he cut and implanted five 4-centimeter grafts, *using 20 of the available 30 centimeters of material*. On these facts, as the dissent below recognized, App., *infra*, 61a, *Jewel Incandescent* entirely forecloses the conclusion that Goldfarb is the sole inventor.

In *Jewel Incandescent*, this Court considered a patent for an electric light bulb that was stronger than clear bulbs because of a frosted interior surface with rounded crevices. 326 U.S. at 243. The prior art disclosed how to make a light bulb with those features; the purported inventor's contribution was recognizing the increased strength of the glass. *Id.* at 248. This contribution was similar to Goldfarb's—

⁹ The decision below refers to certain other facts in its discussion of joint inventorship. App., *infra*, 15a-22a. Some of these facts are outright irrelevant—for instance, an incident involving Cooper's obtaining of Goldfarb's slides, *id.* at 16a, which occurred in 1974, long after both Cooper and Goldfarb had conceived the entire invention. See C.A. App. A9642. The court's reliance on the remaining facts suffers from a pervasive flaw: the facts reflect additional contributions Cooper *might have made*, but they do not diminish the undisputed contributions Cooper *did make*. For instance, the opinion relies on testimony that Cooper did not provide Goldfarb with much information in a meeting. App., *infra*, 16a. But that hardly diminishes the information that Cooper provided *in his letter*, which enclosed the embodiment of the invention.

the purported inventor noticed the “latent qualities” in a product that allowed it to be “adapted . . . to a useful end.” *Id.* at 249. But this Court rejected his claim to inventorship, explaining that “[i]t is not invention to perceive that the product which others had discovered had qualities they failed to detect.” *Ibid.*

The proper application of *Jewel Incandescent* in the joint-inventorship context is illustrated by Judge Saris’s *PerSeptive* opinion. In that case, as in this one, the would-be joint inventors had supplied physical materials to the named inventors on the patent, who had discovered a microscopic property of those very materials that made them successful. The court held that *Jewel Incandescent* precluded sole inventorship: “[J]ust as recognizing that the form of the pitting had an effect on the strength of the light bulb did not trigger patent protection in [*Jewel Incandescent*], the discoverers of the latent qualities in the packing material developed and manufactured by another cannot claim sole inventorship within the meaning of the patent laws.” 12 F. Supp. 2d at 83-84.

C. The Decision Below Contradicts Precedent and Logic By Demanding That A Joint Inventor Meet A Standard For Sole Inventorship

As *Cooper II* makes clear, if Cooper had communicated the importance of fibril length to Goldfarb, he would have won the interference and been declared the *sole* inventor. App., *infra*, 146a. Had Cooper communicated that precise information, Goldfarb’s work would have inured to Cooper’s benefit and Goldfarb would have had no inventorship

rights. *Ibid.* By relying on the same factor to deny Cooper *joint*-inventor status, the panel majority set up a false choice whereby Cooper is either the sole inventor or not an inventor at all—the possibility of joint inventorship is foreclosed altogether.

The panel majority noted that “Gore’s argument remains unchanged” from the inurement argument in the interference—as though an argument that did not prove inurement automatically could not prove joint inventorship either. App., *infra*, 18a. Repeating the same mistake, the majority dismissed the significance of letters from Drs. Sharp and Kelly because “this court previously considered those letters and found that they have no effect on Goldfarb’s inventorship.” App., *infra*, 21a. But those letters were previously considered in the context of *sole* inventorship, not *joint* inventorship, which plainly demands less.

Inurement is a doctrine whereby, as a matter of law, the acts of another person accrue to the inventor’s benefit. App., *infra*, 140a. The standard that must be met to establish inurement is justifiably stringent; within the inurement context, it was understandable for the court to ask “whether Cooper submitted the material to Goldfarb for testing *to determine whether it had the required fibril lengths.*” App., *infra*, 144a (emphasis added). The inurement inquiry is, in effect, whether Goldfarb was merely Cooper’s assistant; it makes no sense to apply the same test when the question is whether Cooper was Goldfarb’s co-inventor. Until this case, the Federal Circuit cautioned against making that very mistake, rejecting a “district court[] analysis of joint inventorship [that] effectively required [the purported co-

inventor] to show that he was the sole inventor.”
Fina Oil, 123 F.3d at 1474.

In short, the panel majority newly, and incorrectly, required one seeking joint-inventorship status to show everything he would have to show to be awarded sole inventorship.

* * * * *

By rigidly applying a “communication” requirement in contravention of the governing statute, by overvaluing Goldfarb’s contribution in contravention of *Jewel Incandescent*, and by demanding that a joint inventor meet the sole-inventorship standard, the Federal Circuit has made important errors that deserve review by this Court. The Federal Circuit has upheld massive liability imposed on Gore for making Gore-Tex® products like the one Gore employee Cooper designed and gave to Goldfarb in April 1973, before Goldfarb did any experiments, solely because Goldfarb (conducting experiments at Cooper’s request) identified one key property that Cooper had not communicated. The result is as bizarre as the implications of the analysis are far-reaching. The straightforward facts make this case an excellent vehicle for this Court to address and correct the Federal Circuit’s new and erroneous law of joint inventorship.

II. The Question Presented Is Important

A. The Increasing Prevalence Of Collaborative Research Makes It More Important Than Ever For Patents To Recognize The Contributions Of Joint Inventors

The realities of modern science render the law of joint inventorship ever more important. As one

study has noted, “teams increasingly dominate solo authors in the production of knowledge” and “[r]esearch is increasingly done in teams across nearly all fields.” Stefan Wuchty et al., *The Increasing Dominance of Teams in Production of Knowledge*, 316 SCIENCE 1036, 1036 (2007). The study, examining more than two million patents, found increased average team size (between 1975 and 2000) in all 36 patent subfields examined. *Id.* at 1036, 1037. It also found that teams generally produced more influential patents than individuals, and were likelier to produce the most frequently cited patents. *Id.* at 1037.

Explanations offered for the trend of increasing, and increasingly important, collaboration include greater specialization due to the complexity of modern technology; the increasing capital intensity of research; the globalization of the marketplace; and the advent of advanced communications networks. See Wuchty et al., *supra*, 316 SCIENCE at 1038; Rochelle Cooper Dreyfuss, *Collaborative Research: Conflicts on Authorship, Ownership and Accountability*, 53 VAND. L. REV. 1161, 1162-63 (2000); John R. Thomas, Cong. Research Serv., RL 33063, *Intellectual Property and Collaborative Research* 1 (2005). Whatever the explanation, scientific collaboration has only grown in importance for the advancement of useful knowledge.

Congress has recognized these developments by repeatedly acting to promote collaborative research. Title 35 U.S.C. § 200 declares: “It is the policy and objective of the Congress . . . to promote collaboration between commercial concerns and nonprofit organizations, including universities.” The CREATE

Act of 2004, which removed certain obstacles to patenting inventions resulting from scientific collaborations, reflected recognition that “[c]ollaborative research among private, public and non-profit entities is an essential pillar of the economy of the United States.” H.R. Rep. No. 108-425, at 3 (2004); see Cooperative Research and Technology Enhancement (CREATE) Act of 2004, Pub. L. No. 108-453, 118 Stat. 3596 (2004). The CREATE Act gave “collaborative researchers affiliated with multiple organizations” similar protections to “researchers employed by a single organization,” to “foster improved communication among researchers, provide additional certainty and structure for those who engage in collaborative research,” and ultimately “spur innovation and investment.” H.R. Rep. No. 108-425, at 2. In the recent Leahy-Smith America Invents Act, Congress explicitly expressed “the same intent to promote joint research activities that was expressed, including in the legislative history, through the enactment of the [CREATE Act].” Pub. L. No. 112-29, § 3(b)(2), 125 Stat. 284, 287 (2011).

For these reasons, it is important for the patent system to “foster actual collaboration among researchers.” W. Fritz Fasse, *The Muddy Metaphysics of Joint Inventorship: Cleaning Up After the 1984 Amendments to 35 U.S.C. § 116*, 5 HARV. J.L. & TECH. 153, 160 (1992); see also *Momenta Pharm., Inc. v. Amphastar Pharm., Inc.*, 686 F.3d 1348, 1375 (Fed. Cir. 2012) (Rader, C.J., dissenting) (“With the vast specialization of all fields of research, advances in technology require great cooperation. . . . The patent system can help inform each of [several contributors] of the other and bring together their incremental advances to achieve the next generation

of progress in some tiny corner of human progress.”). And, because “[s]cientific progress depends upon the ability of individual researchers to engage in the exchange of information free from proprietary concerns,” Sung, *supra*, 3 DEPAUL J. HEALTH CARE L. at 438, it is crucial to establish a joint-inventorship standard that facilitates rather than impedes communication among researchers.

B. The Federal Circuit’s Overly Stringent Standard For Joint Inventorship Will Chill Valuable Research, Directly Contrary To Congress’s Intent

Before 1984, there was “an atmosphere of caution among potential joint researchers” because “entities that made significant contributions to a research project could nonetheless be denied the rewards of patent ownership.” Thomas, *supra*, at 8. Congress’s 1984 amendments to Section 116 “made it easier to include members of a large research team as joint inventors on a patent” and “lowered the bar for joint inventorship status.” Joshua Matt, Note, *Searching for an Efficacious Joint Inventorship Standard*, 44 B.C. L. REV. 245, 246 (2002). The decision below will predictably re-create the very atmosphere of caution Congress worked to dispel.

Congress codified the liberal *Monsanto* definition of joint inventorship. Indeed, Congress codified *Monsanto*’s negative criteria for joint inventorship, without also adopting the positive criteria provided in that opinion. “Congress seems to have been reluctant to promulgate specific standards for joint inventorship lest a court omit a bona fide inventor from a patent for failure to meet rigid statutory requirements.” *Id.* at 256; see also *Section-by-*

Section Analysis, supra, at 28,071 (the amendments to Section 116 “recognize[] the realities of modern team research”); Dreyfuss, *supra*, 53 VAND. L. REV. at 1210 (Congress amended the Patent Act “with the express intent of nurturing collaborative efforts and improving information flows” by, among other things, amending Section 116).

The Federal Circuit has not construed Section 116 in keeping with Congress’s view that a liberal standard for joint inventorship is necessary to nurture collaborative efforts. Even before the decision below, one writer observed that “the Federal Circuit has a well-established bias against claims of joint or prior invention.” Andrew B. Dzeguze, *Avoiding the “Fifth Beatle” Syndrome: Practical Solutions to Minimizing Joint Inventorship Exposure*, 6 J. MARSHALL REV. INTELL. PROP. L. 645, 648 (2007) (capitalization altered). And the opinion below represents a dramatic lurch in a more stringent direction. This is particularly misguided because an overly harsh joint-inventorship standard is much more harmful to inventors than an overly lenient one. Whereas a lenient standard may cause a researcher to worry about losing *sole* rights to an invention, a stringent standard threatens researchers with losing *all* rights.

Under the Federal Circuit’s new standard, researchers who made a significant contribution to an invention must be concerned about losing *all* of the monetary and reputational benefits of inventorship if a collaborator simply ascertains what is later determined to be the invention’s “key requirement.” Researchers must also worry that their collaborators will draft patent applications opportunistically. A

high bar to joint inventorship creates “a perverse incentive in claim drafting,” making it advantageous for applicants to “craft an application to fully disclose the contribution of an unnamed party, then claim in a way that differed from the party’s contribution.” Dzeguze, *supra*, 6 J. MARSHALL REV. INTELL. PROP. L. at 660. Such a rule will inevitably chill communication among researchers. As the dissent below recognized, the panel majority’s holding is bound to disrupt “routine testing relationships.” App., *infra*, 62a.

C. The Federal Circuit’s Standard Will Cause Harm In A Variety Of Research Settings

The fact patterns in this case and in *PerSeptive* illustrate the potential harms of the decision below. Both cases represent “precisely the kind of collaboration and synergy the 1984 amendment was intended to promote.” *PerSeptive*, 12 F. Supp. 2d at 85.

In both cases, a research team had made substantial progress and actually created a product, and then brought in outsiders for further specialized research to explore its properties. Such arrangements are routine in an age when “[e]ven elite, multinational enterprises may lack the expertise to perform cutting-edge research on their own.” Thomas, *supra*, at 3. This collaborative approach was the efficient one, and it led to the development of valuable inventions in both cases. But, if the Federal Circuit’s rule is allowed to stand, future researchers would be far less likely to behave in the same way. The patent system should encourage researchers like Cooper to bring in collaborators like Goldfarb, who could supply the surgical testing that Cooper could not; but, if Cooper had known that Goldfarb might

deprive him of *all* inventorship credit and impose liability on Gore by making a single observation, Cooper might very well have hesitated before collaborating with him. Future collaborations of this sort are sure to be chilled, and improvements in medical and other technologies slowed, if the Federal Circuit's decision stands.

The Federal Circuit's decision would also have harmful effects in the academic research setting. As universities have become more entrepreneurial,¹⁰ they have encountered a variety of joint-inventorship disputes, involving "collaboration between different institutions, collaboration between research groups in the same institution, collaboration with outside contractors, or even graduate students who have more than one research advisor." Sean B. Seymore, *My Patent, Your Patent, or Our Patent? Inventorship Disputes Within Academic Research Groups*, 16 ALB. L.J. SCI. & TECH. 125, 135 (2006).

The standards for identifying the inventors are important. Congress has required, in the Bayh-Dole Act, that covered contractors receiving federal research funds "share royalties with the inventor." 35 U.S.C. § 202(c)(7). And, although patent ownership is generally assigned to the academic institution, universities typically share royalties with the inventors, who also value the recognition of inventorship. Dreyfuss, *supra*, 53 VAND. L. REV. at 1184, 1211. The possibility of losing *all* rights to inventions that researchers have contributed to is bound to complicate their varied collaborative

¹⁰ Pat K. Chew, *Faculty-Generated Inventions: Who Owns the Golden Egg?*, 1992 WIS. L. REV. 259, 271-72.

relationships, and undermine the complex teamwork that enables today's most important inventions.¹¹

Congress enacted the current version of Section 116 precisely because it recognized the collaboration-stifling effects of an overly demanding standard for joint inventorship. In addition to its many legal defects, the Federal Circuit's misinterpretation of Section 116 will have a severe negative impact on valuable scientific collaboration, recognized by Congress as "an essential pillar of the economy of the United States." H.R. Rep. No. 108-425, at 3. Review is warranted to avoid that harmful result.

¹¹ Neither legally nor practically can researchers and institutions solve these problems through private arrangements. First, while private agreements can determine ownership of an invention, they cannot determine inventorship: patents must list all, and only, the actual inventors (who must submit oaths). *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1348-49 (Fed. Cir. 1998); 35 U.S.C. § 116. Second, as confirmed by the recurrence of joint-inventorship disputes, even prestigious and sophisticated researchers often fail to iron out patent ownership problems *ex ante*. Dreyfuss, *supra*, 53 VAND. L. REV. at 1173-74; see *id.* at 1165 ("[L]eft on their own, parties can and do run into significant difficulties."). That is hardly surprising, because contracts are commonly incomplete when uncertainties make bargaining costly. See Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 87, 92-93 (1989). Research being inherently unpredictable, researchers often do not find it "worth incurring the costs of fully negotiating the terms of association." Dreyfuss, *supra*, 53 VAND. L. REV. at 1174. Moreover, even a general policy of entering into joint development agreements "will not guard against the unforeseeable breakthrough." Dzeguze, *supra*, 6 J. MARSHALL REV. INTELL. PROP. L. at 666.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted.

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