

# Resolution of Inventorship Disputes: Avoiding Litigation Through Early Evaluation

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## I. INTRODUCTION

Determination of patent inventorship (and ownership that flows from inventorship) presents a continuing difficulty<sup>1</sup> for patent law practitioners.<sup>2</sup> The opportunity for rapid, inexpensive resolution of disputes, and the capacity to maintain ongoing relationships, makes many intellectual property disputes appear well-suited for alternative dispute resolution (ADR) procedures.<sup>3</sup> Nonetheless, use of mediation-type ADR procedures to determine inventorship risks invalidating a patent or interfering with its ownership.<sup>4</sup>

Collaborative research is common, and discoveries arising from such research commonly produce inventions with joint inventors. This situation enhances the potential for disputes over designation of inventors. Even though organizations commonly have formal and informal procedures for resolving such disputes, because inventorship is a matter of law that cannot be stipulated, mediated or negotiated, inventorship designations risk invalidating the patent. As long as the U. S. patent system awards patents to the first-to-invent, rather than to the first-to-file, diligent and good faith determinations of inventorship will continue to be essential for patent validity.<sup>5</sup>

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<sup>1</sup> See, e.g., *Ethicon v. U.S. Surgical*, 135 F.3d 1456, 1458 (Fed. Cir. 1998); *Chou v. Univ. of Chi.*, 254 F.3d 1347, 1353 (Fed. Cir. 2001); *Hess v. Advanced Cardiovascular Sys., Inc.*, 106 F.3d 976, 977 (Fed. Cir. 1997); *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1351 (Fed. Cir. 1998); *W.Va. Univ. v. VanVoorhies*, 278 F.3d 1288, 1292–94 (Fed. Cir. 2002); see generally 1 DONALD S. CHISUM, CHISUM ON PATENTS § 2.01 (1999) (noting that only a “true and original inventor may obtain a patent,” and implying that determining inventorship will be an ongoing struggle).

<sup>2</sup> Both registered patent agents and patent attorneys prosecute patents before the U.S. Patent Office. For purposes of clarity, all patent law practitioners will be referred to as attorneys.

<sup>3</sup> See TOM ARNOLD ET AL., PATENT ALTERNATIVE DISPUTE RESOLUTION HANDBOOK § 5.07 (1991).

<sup>4</sup> See Lawrence M. Sung, *Collegiality and Collaboration in the Age of Exclusivity*, 3 DEPAUL J. HEALTH CARE L. 411, 437 (2000).

<sup>5</sup> Most of the rest of the world uses a system where patents are awarded to the first-to-file an application disclosing a particular invention. See MARTIN J. ADELMAN ET AL., CASES AND MATERIALS ON PATENT LAW 204–05 (1998). If the United States adopted a first-to-file system, along with awarding patents to the owner, most challenges to patent validity based on incorrect inventorship and priority of invention would be eliminated. *Id.*

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Rather than using informal and non-binding mechanisms to resolve inventorship disputes, more formal, evaluative inventorship determination processes are necessary to avoid incorrectly identifying inventors and introducing unnecessary risks to patent validity and ownership. Though patent owners may seek simply to designate a desired inventor, patent owners are better served by an impartial, evaluative process aimed at determining inventors through the application of legal standards.

The following paper explores the risks of self-determined or mediated inventorship designations and suggests alternative mechanisms to ensure that correct inventors are named on patents. Part II addresses issues surrounding the nature of inventorship and the complication of collaborative research, followed by an examination of common processes used to identify inventors. Part III examines risks to patent validity that arise from negotiated or mediated inventorship designations. Part IV suggests a process or mechanism that practitioners can implement to insure that conflicting interests do not interfere with determining correct inventorship.

### II. CONFLICTING INTERESTS LEADING TO INCORRECT INVENTORSHIP DESIGNATION CAN INVALIDATE A PATENT

Only patents that list the first and true inventors are enforceable.<sup>6</sup> However, if the true inventors are not listed on a patent, under certain conditions the defect can be corrected.<sup>7</sup> If inventorship cannot be corrected,

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at 380–81. Though many commentators argue that the United States should adopt a first-to-file system, the current interpretation of the United States Constitution and the patent statutes is that patents are to be awarded to the first inventor. 35 U.S.C. § 102(g) (2000); see PAUL GOLDSTEIN, COPYRIGHT, PATENT, TRADEMARK AND RELATED STATE DOCTRINES 424–25 (rev. 4th ed. 1999). Adoption of a first-to-file system does not appear imminent. See Donald R. Dunner, *First to File: Should Our Interference System Be Abolished?*, 68 J. PAT. & TRADEMARK OFF. SOC'Y 561, 561–62 (1986) (discussing the merits of a first-to-file system and the controversy over whether the United States should adopt such a system); see also Mark T. Banner & J. McDonnell, *First-to-File, Mandatory Reexamination, and Mandatory "Exceptional Circumstance:" Ideas for Better? Or Worse?*, 69 J. PAT. & TRADEMARK OFF. SOC'Y 595, 596 (1987); Karen M. Curesky, *International Patent Harmonization Through WIPO: An Analysis of the U.S. Proposal to Adopt a 'First-to-File' Patent System*, 21 LAW & POL'Y INT'L BUS. 289, 289–308 (1989).

<sup>6</sup> *Stark v. Advanced Magnetics*, 119 F.3d 1551, 1553, 1556 (Fed. Cir. 1997); *Ethicon*, 135 F.3d at 1460–61; *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1178 n.6 (Fed. Cir. 1995); see 35 U.S.C. §§ 111, 115–16 (2000).

<sup>7</sup> *Ethicon*, 135 F.3d at 1461; see 35 U.S.C. §§ 116, 256 (2000).

such as when incorrect inventors are named with deceptive intent, the patent is essentially invalid.<sup>8</sup>

### A. Collaborative Research and Inventor Associated Rewards Complicate Inventorship Determinations

Patents in the United States are granted in the name of the inventors of the claimed subject matter.<sup>9</sup> After making a discovery, an inventor applies for a patent in her own name, often using a registered patent agent or attorney to prosecute the patent application before the U.S. Patent and Trademark Office (PTO).<sup>10</sup> Determination of inventorship has been characterized as “one of the muddiest concepts in the muddy metaphysics of the patent law,” and remains one of the most difficult areas of patent law.<sup>11</sup> Any researcher who has contributed to the conception of the patent application’s claimed subject matter is an inventor, whether or not the researcher contributed to the reduction to practice of the invention.<sup>12</sup>

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<sup>8</sup> *Stark*, 119 F.3d at 1556 (“One bad apple spoils the entire barrel. Misdeeds of co-inventors, or even a patent attorney, can affect the property rights of an otherwise innocent individual.”); *Molins PLC*, 48 F.3d at 1178, 1187 (“Applicants for patents are required to prosecute patent applications in the United States Patent and Trademark Office with candor, good faith, and honesty. This duty extends also to the applicant's representatives. A breach of this duty constitutes inequitable conduct.”).

<sup>9</sup> U.S. CONST. art. I, § 8, cl. 8; 35 U.S.C. § 101 (2000).

<sup>10</sup> 35 U.S.C. §§ 111, 116 (2000).

<sup>11</sup> *Mueller Brass v. Reading Indus.*, 352 F. Supp. 1357, 1372 (E.D. Pa. 1972), *aff'd*, 487 F.2d 1395 (2d Cir. 1973).

<sup>12</sup> *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1351 (Fed. Cir. 1998).

All that is required of a joint inventor is that he or she (1) contribute in some significant manner to the conception or reduction to practice of the invention, (2) make a contribution to the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full invention, and (3) do more than merely explain to the real inventors well-known concepts and/or the current state of the art.

*Id.*; see *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994). “Determining ‘inventorship’ is nothing more than determining who conceived the subject matter at issue, whether that subject matter is recited in a claim in an application or in a count in an interference. Conception, and consequently inventorship, are questions of law that this court reviews de novo.” *Id.* (citing *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985)). An invention requires both a “conception” by the inventor of operative invention, followed by a “reduction to practice” of the conceived invention. See ADELMAN ET AL., *supra* note 5, at 321–39.

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Conception—and consequently inventorship—is a question of law for the courts.<sup>13</sup> Joint inventors must jointly apply for a patent by filing a single application; otherwise the patent is unenforceable.<sup>14</sup>

While inventors apply for a patent in their own names, assignees (*i.e.* parties with a right of ownership in the application or the issued patent) are often involved in determining the inventors as well as in drafting and prosecuting the patent application.<sup>15</sup> A corporate legal department or an institutional intellectual property office may have an established process that researchers use to disclose potentially patentable inventions.<sup>16</sup> In practice, the supervisor of a research group will often be the individual completing an initial disclosure statement (in some instances a form is supplied to provide the information).<sup>17</sup> The legal department responsible may rely on the

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<sup>13</sup> See *id.*; *Ethicon v. U.S. Surgical*, 135 F.3d 1456, 1460 (Fed. Cir. 1998) (“Inventorship is a question of law, which this court reviews without deference.”).

<sup>14</sup> See 35 U.S.C. §§ 111, 116 (2000); *Stark v. Advanced Magnetics*, 119 F.3d 1551, 1553 (Fed. Cir. 1997).

<sup>15</sup> This is most true when an employee or outside contractor has an obligation to assign inventions, as occurs on most U.S. Patents. See, e.g., Robert P. Merges, *The Law and Economics of Employee Inventions*, 13 HARV. J. L. & TECH. 1, 3 (1999); 35 U.S.C. § 261 (2000) (discussing patent ownership and assignment).

<sup>16</sup> See, e.g., Washington State University, *Faculty Manual*, available at [http://www.wsu.edu/Faculty\\_Senate/FM\\_seciv.doc](http://www.wsu.edu/Faculty_Senate/FM_seciv.doc) (last visited Mar. 9, 2003) (copy on file with author); University of Wisconsin System, [Intellectual Property] *Procedure*, available at <http://www.wisc.edu/wisys/system/bring.html> (last visited Mar. 9, 2003) (copy on file with author); Ohio State University, *Policy on Patents and Copyrights*, available at <http://www.techtransfer.rf.ohio-state.edu/pdf/PatentCopyrightPolicy.pdf> (last visited Mar. 9, 2003) (copy on file with author); see also Rochelle Cooper Dreyfuss, *Collaborative Research: Conflicts on Authorship, Ownership, and Accountability*, 53 VAND. L. REV. 1162, 1184 n.77 (2000).

<sup>17</sup> Dreyfuss, *supra* note 16; see, e.g., Stanford University, *Stanford University Invention and Technology Disclosure*, available at <http://otl.stanford.edu/inventors/resources/disclosure.pdf> (last visited Mar. 9, 2003) (copy on file with author); Washington State University, *Invention Disclosure*, available at <http://www.wsu.edu/~forms/PDF/BPPM/35-50-5-8.pdf> (copy on file with author); University of Indiana, *Disclosure Form*, available at <http://arti.indiana.edu/ott/inventors/021.html> (last visited Mar. 9, 2003) (copy on file with author); The Bayh-Dole Act, 35 U.S.C. § 202 (2000), requires disclosure to the supporting institution of inventions arising from federally funded research. For a discussion of the implications of the Bayh-Dole Act, see generally Tamsen Valoir, *Government Funded Inventions: The Bayh-Dole Act and the Hopkins v. CellPro March-in Rights Controversy* 8 TEX. INTELL. PROP. L.J. 211 (2000) (discussing the Bayh-Dole Act which allows for private ownership of inventions funded by the

disclosed information, along with any information derived from an interview with the supervisor, in deciding whether to file a patent application.<sup>18</sup> An attorney normally will proceed with the application by gathering additional information from the supervisor and from other involved individuals identified by the supervisor. If the supervisor either fails to fully identify those involved in the research or is not made aware of the contribution of other researchers (or outside collaborators), the drafter of the patent application may remain unaware that the information is incomplete regarding the individual contributions to the disclosed subject matter.<sup>19</sup>

The interests of potential inventors often are divergent from the interests of a patent assignee. These divergent interests create a conflict between the assignee—whose interest is in an unambiguous, yet correct, identification of inventors—and the researchers who seek attribution for the discovery to which they have contributed.<sup>20</sup> Even if a potential inventor does not retain ownership of the discovery due to contractual obligations, direct pecuniary and reputational benefits are often derived from being listed as an inventor on a patent application.<sup>21</sup> Competition for receiving these benefits, whether the benefits are real or perceived, can seriously damage professional relationships if conflict should arise. One such example, *Chou v. University*

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taxpayer).

<sup>18</sup> See, e.g., *University of Wisconsin System*, *supra* note 16.

<sup>19</sup> See, e.g., *Chou v. Univ. of Chi.*, 254 F.3d 1347, 1354 (Fed. Cir. 2001); *Trovan, Ltd. v. Sokymat SA*, No. 99-1474, 99-1488, 2000 U.S. App. LEXIS 22901, at \*4–\*6 (Fed. Cir. Sept. 8, 2000); *Univ. of Colo. Found. v. Am. Cyanamid Co.*, 196 F.3d 1366, 1369–70 (Fed. Cir. 1999); see also *Dreyfuss*, *supra* note 16, at 1210–14, 1212 n.210.

<sup>20</sup> See, e.g., *Chou*, 254 F.3d at 1359. In *Chou v. University of Chicago*, Joany Chou sought attribution on a patent application she was obligated to assign to her employer. *Id.* The University of Chicago found royalties threatened by the dispute between Chou and her supervisor. *Id.*; see discussion *infra* notes 22–26.

<sup>21</sup> *Chou*, 254 F.3d at 1359; see *ADELMAN ET AL.*, *supra* note 5, at 726.

As inventors named in a patent often receive benefits ranging from financial rewards from their employers to recognition from the technical community, intracorporate disputes over ownership are not uncommon. Patent attorneys must often demonstrate persistence and tact in order to ensure that the appropriate individuals are named in a given patent.

*Id.*; see also Donna Domagala, Note, *Employee Suggestion Plans: Building a Better Mousetrap or the Misappropriation of Ideas?*, 31 SUFFOLK U. L. REV. 391, 408–11 (1997) (discussing employee reward programs which provide cash payments for suggested innovations).

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of Chicago, is unfortunately not unique.<sup>22</sup>

Joany Chou had been a researcher studying Herpes Simplex Virus (HSV) in the laboratory of Bernard Roizman for thirteen years, first as a graduate student and later as a postdoctoral researcher.<sup>23</sup> Roizman had listed Chou as an inventor on one patent concerning a method useful in producing HSV vaccines, and even though she was listed as an author on the associated research publications, Roizman applied for additional patents without listing Chou.<sup>24</sup> The university employer, which routinely assigned ownership of patent applications, licensed the patents back to a company Roizman had helped form.<sup>25</sup> When Chou challenged Roizman's actions, he threatened to fire her if she did not resign, and the relationship between the researchers disintegrated into an acrimonious lawsuit.<sup>26</sup>

Though Chou was later found to have an obligation to assign her work to the university, her suit survived, and the potential value of the invention to all involved was threatened.<sup>27</sup> Especially in situations where the researcher seeking inclusion as an inventor will derive no direct pecuniary benefit from the patent application, the researcher's primary interest may well be recognition of the research product as an invention.<sup>28</sup> The inventor without ownership will derive benefit from the recognition of an inventive contribution and is not as likely to be concerned about a potential challenge to the validity of an issued patent, especially if a validity challenge occurs years later. An accurate inventorship determination, with the appearance of fair dealing, may well help avoid conflicts between owners, inventors, and non-inventor contributors.

Employees may also enjoy direct financial rewards through programs established by their employers.<sup>29</sup> When a direct financial benefit arises from being named an inventor, employees will have a strong incentive to be

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<sup>22</sup> *Chou*, 254 F.3d at 1354; *see also supra* note 1 and accompanying text.

<sup>23</sup> *Chou*, 254 F.3d at 1353.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.* at 1353–54.

<sup>26</sup> *Id.* at 1354; *see also* *Chou v. Univ. of Chicago*, No. 99 C 4495 2000 U.S. Dist. LEXIS 2002, at \*1–\*3 (N.D. Ill. Feb. 18, 2000).

<sup>27</sup> *Chou*, 254 F.3d at 1359.

<sup>28</sup> *Id.*

<sup>29</sup> *Merges*, *supra* note 15; *see* *Schoenberg v. E. I. Dupont De Nemours & Co.*, No. 97–2589, 1998 U.S. App. LEXIS 14502, at \*2–\*3 (4th Cir. Jun. 29, 1998).

named an inventor.<sup>30</sup>

Determining inventorship of joint inventions is a difficult process.<sup>31</sup> When there is collaboration between different institutions, between an institution and outside contractors, and even within large institutions, the problem of sorting out the contributions of all parties can become daunting.<sup>32</sup> Moreover, researchers commonly move between organizations, even direct competitors, in the period of time between when an invention is conceived and when it is reduced to practice. The complex relationships in collaborative research, along with the mobility of the researchers themselves, create a situation where divergent interests are coupled with difficulty in obtaining complete and accurate information. Since the patent practitioner is ultimately responsible for the issued patent listing the correct inventors, patent attorneys need to exercise caution to avoid allowing the divergent interests and incomplete information prompting an incorrect listing of inventors.<sup>33</sup>

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<sup>30</sup> See Antigone Kriss., *Misrepresentation of Inventorship and the Inequitable Conduct Defense: Perspective Biosystems, Inc., v. Pharmacia Biotech, Inc.*, 12 FED. CIR. B.J. 285, 285–87 (2002). Certain employees may receive a one-time cash payment for being named as an inventor on a patent application. See, e.g., Washington State University, *supra* note 16. Many universities have set schedules for royalty payments to employee inventors who assign an invention to the university. See, e.g., University of Wisconsin System, *supra* note 16; Ohio State University, *supra* note 16; Dreyfuss, *supra*, note 16, at 1184–85, 1185 n.77.

<sup>31</sup> 1 CHISUM, *supra* note 1 at § 2.04[4][c].

<sup>32</sup> See, e.g., *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1351 (Fed. Cir. 1998); *Canon Computer Sys., Inc. v. Nu-Kote Int'l, Inc.*, 134 F.3d 1085, 1088 (Fed. Cir. 1998); *Burroughs Wellcome Co. v. Barr Lab., Inc.*, 40 F.3d 1223, 1226–27 (Fed. Cir. 1994); see generally 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 (1992) (describing the struggle with defining the legal standard for joint inventorship); John Lucas, *The Doctrine of Simultaneous Conception and Reduction to Practice in Biotechnology: A Double Standard for the Double Helix*, 26 AIPLA Q. J. 381 (1998) (describing the difficulty of applying current legal doctrine to determine inventorship in biotechnology).

<sup>33</sup> Edward V. Filardi, *Ownership of Intellectual Property Assets—Contracting, Joint Development, and Alliance*, 635 PLIPAT 65, 75–77 (2001) (discussing dangers to patent protection if every joint inventor is not named).



### B. *Inventorship Disputes Often Arise in Collaborative Research*

Collaborative research is common within public institutions, in private industry, and between public and private entities.<sup>34</sup> In many areas of science and technology, collaborative efforts involving multiple researchers are more common than having a single individual working alone to produce a discovery.<sup>35</sup> With the prevalence of researchers collaborating to produce a discovery that is potentially patentable comes a greater potential for disputes surrounding attribution and inventorship.<sup>36</sup>

Because of the difficulty in determining who can correctly be identified as an inventor, and because researchers commonly are uneducated regarding inventorship law (especially regarding how inventorship is differentiated from academic authorship), inventorship disputes are common in collaborative research.<sup>37</sup> When a patentable invention is discovered, a number of researchers may believe that their contributions warrant inventorship and seek to be named as inventors on a patent application.<sup>38</sup>

Researchers do not necessarily differentiate between a contribution that is sufficient to warrant authorship<sup>39</sup> and a contribution to the conception of

<sup>34</sup> See generally Sung, *supra* note 4 (explaining the pitfalls of current patent law and joint inventorship).

<sup>35</sup> A brief examination of the table of contents of a peer-reviewed general scientific journal such as *Science* or *Nature* shows it is rare for a research publication to have a single author.

<sup>36</sup> Sung, *supra* note 4, at 438–39; Dreyfuss, *supra* note 16, at 1212; see also *supra* note 1 and accompanying text.

<sup>37</sup> See, e.g., *W. Va. Univ. v. VanVoorhies* 278 F.3d 1288, 1292 (Fed. Cir. 2002); *Chou v. Univ. of Chi.*, 254 F.3d 1347, 1353–55 (Fed. Cir. 2001); *Acromed Corp. v. Sofamor Danek Group, Inc.*, 253 F.3d 1371, 1374–79 (Fed. Cir. 2001); *Univ. of Colo. Found. v. Am. Cyanamid Co.*, 196 F.3d 1366, 1374 (Fed. Cir. 1999); *Canon Computer Sys., Inc.*, 134 F.3d at 1088; *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1468–72 (Fed. Cir. 1997); *Burroughs Wellcome Co.*, 40 F.3d at 1228; *Photogen Inc. v. Wolf*, No. 00C5841, 2001 U.S. Dist. LEXIS 5796, at \*2–\*3 (N.D. Ill. May 7, 2001).

<sup>38</sup> See cases cited *supra* note 37.

<sup>39</sup> There exists ongoing controversy surrounding the level of contribution required to justify inclusion as an author of a journal article presenting scientific research results. See, e.g., Dreyfuss, *supra* note 16, at 1175, 1122–23. Several organizations have suggested standards for authorship, and many journals have adopted standards, but these standards usually are self-enforced and often ignored. See *id.* at 1183–84, 1184 n.75. Considerations other than direct contribution may have an impact on the decision of who

an invention that would warrant inventorship.<sup>40</sup> In some situations, authorship on a publication is conferred as an honorarium or “gift,” although the contribution is clearly insufficient to warrant inventorship.<sup>41</sup> Though authorship in this situation fosters collegiality, this sort of authorship does not, by itself, indicate inventorship.<sup>42</sup>

A patent attorney may initially solicit information from potential inventors and interested parties, and then use that information to make a preliminary inventorship determination.<sup>43</sup> Often, there will be time constraints associated with filing a patent application.<sup>44</sup> These time

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is included as an author on a scientific publication, so that journal policies are secondary to author interests. *See id.*; Philippe Ducor, *Coauthorship and Coinventorship; Pressure to Publish in Scientific Community Raises Moral and Ethical Problems*, 289 SCIENCE 873, 873, 875 (2000). The International Committee of Medical Journal Editors has adopted guidelines for authorship:

All persons designated as authors should qualify for authorship . . . . Authorship credit should be based only on substantial contributions to 1) conception and design, or analysis and interpretation of data; and to 2) drafting the article or revising it critically for important intellectual content; and on 3) final approval of the version to be published. Conditions 1, 2, and 3 must all be met to warrant authorship.

*Id.* at 873 (quoting Ann. Intern. Med. 126, 36 (1997), available at <http://www.acponline.org/journal/annals/01jan97/unlfrqr.htm>) (copy on file with author); cf. Barbara Culliton, *Stanford President Calls for New Authorship Policy*, 230 SCIENCE 422, 422–23 (1985).

<sup>40</sup> *See generally* GARY W. MATKIN, TECHNOLOGY TRANSFER AND THE UNIVERSITY (1992) (discussion of researcher’s knowledge of inventorship and authorship); Sandip H. Patel, Note, *Graduate Students’ Ownership and Attribution Rights in Intellectual Property*, 71 IND. L. J. 481 (1996) (examining the difficulties faced by graduate students in establishing property rights when they contribute to an invention).

<sup>41</sup> For instance, a collaborator who is not a direct participant in the research, but has provided critical support by donating critical reagents, providing access to equipment, or supplying funding, may be rewarded with authorship. In other situations, an influential colleague may be added as an author even though they made no specific contribution to the work. Though these practices are discouraged by the policies of many scientific journals, anecdotal reports suggest they continue. *See, e.g.*, Ducor, *supra* note 39, at 874.

<sup>42</sup> *See In re Katz*, 687 F.2d 450, 455 (C.C.P.A. 1982); ADELMAN ET AL., *supra* note 5, at 726 (warning attorneys to “be aware of . . . technical disclosure forms and other documents that label a person as the ‘inventor’; such determinations are often made without awareness of the strictures of the Patent Act.”); *see also* Sung, *supra* note 4, at 437–38 n.105.

<sup>43</sup> THOMAS A. TURANO, OBTAINING PATENTS 2-1 to 2-5 (1997) (practice manual for patent attorneys).

<sup>44</sup> For instance a utility patent application must be filed within one year of an

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constraints can prevent a full investigation into inventorship. The attorney and the inventors often rely on the correct individuals being solicited for information, and upon the quality of the information provided.<sup>45</sup> Moreover, certain interested parties may personally benefit from an incomplete disclosure of inventorship contributions.<sup>46</sup>

Collaborative research also harbors pitfalls surrounding the joint ownership of inventions.<sup>47</sup> Inventorship of a patent, which arises from the conception of an invention, is a separate and distinct issue from the ownership of a patent, which is derived from fundamental property law.<sup>48</sup> While “inventorship is a question of who actually invented the subject matter claimed . . . . Ownership, however, is a question of who gains legal title to the subject matter . . . .”<sup>49</sup> “[W]ho ultimately possesses ownership rights in that subject matter has no bearing whatsoever on the question of who actually invented that subject matter.”<sup>50</sup>

Most inventions are made by employees within the scope of their employment.<sup>51</sup> Employment agreements typically will give employers

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enabling disclosure, the first public use or sale, or (if priority is to be claimed) the filing of a provisional patent application. 35 U.S.C. § 102 (2000). To protect the ability to obtain patents in most foreign countries, a patent application must be filed before any enabling disclosure or public sale. *See* ADELMAN ET AL., *supra* note 5, at 205 (citing William Lesser, *Grace Periods in First-to-File Countries*, 3 EUR. INTELL. PROP. REV. 81 (1987)).

<sup>45</sup> TURANO, *supra* note 43, at 3-33 to 3-35.

<sup>46</sup> *See, e.g.,* Iron Ore Co. v. Dow Chem., 177 USPQ 34, 51 (D. Utah 1972). A researcher who would be required to share any financial reward derived through an employee incentive program may be unwittingly inclined to minimize the contributions of other researchers.

<sup>47</sup> *See* Sung, *supra* note 4, at 436; *see, e.g.,* Kosower v. Gutowicz, No. 00 Civ 9011 2001 U.S. Dist. LEXIS 19111, at \*1–\*2 (S.D.N.Y. Nov. 21, 2001).

<sup>48</sup> Sewall v. Walters, 21 F.3d 411, 417 (Fed. Cir. 1994)

It is elementary that inventorship and ownership are separate issues. Inventorship is a question of who actually invented the subject matter claimed in a patent. Ownership, however, is a question of who owns legal title to the subject matter claimed in a patent, patents having the attributes of personal property.

*Id.* (quoting Beech Aircraft Corp. v. EDO Corp., 990 F.2d 1237, 1248 (Fed. Cir. 1993)).

<sup>49</sup> *Beech Aircraft*, 990 F.2d at 1248.

<sup>50</sup> *Id.*

<sup>51</sup> Evelyn D. Pisegna-Cook, *Ownership Rights of Employee Inventions: The Role of Preinvention Assignment Agreements and State Statutes*, 2 U. BALT. INTELL. PROP. L.J. 163, 172 n.70 (1994).

ownership of inventions made within the scope of employment.<sup>52</sup> In collaborative research, often a written collaboration agreement will specifically delimit ownership of any intellectual property, including inventions, which arise from the collaboration.

Absent an agreement to the contrary, each joint owner may freely use or sell an invention without an accounting to other owners.<sup>53</sup> The Federal Circuit in *Ethicon v. U.S. Surgical* held that 35 U.S.C. § 116 confers upon joint inventors joint and several ownership of all claims of a patent, regardless of whether the joint inventors contributed to all claims.<sup>54</sup> If a rightful inventor is not identified, that inventor's interest in the patent is unlikely to be assigned. The unidentified inventor could later seek to correct the patent's inventorship entity—or simply infringe the patent with the ready defense that the patent represents the infringer's own invention.<sup>55</sup> A patent infringer could identify an unnamed inventor, seek to have the inventorship corrected, and then obtain a license from the newly named inventor.<sup>56</sup> Thus, an assignee's risks of incorrect identification of inventors include not only invalidating a patent if inventorship cannot be corrected, but also losing substantial ownership rights to a nonjoined inventor even if inventorship can be corrected.

It is intuitive that when research matures into a commercially valuable patent, there is an increased potential for inventorship disputes. *Burroughs Wellcome Co. v. Barr Laboratories, Inc.*, a suit between rival manufacturers of the drug AZT, is an illuminating example of how collaborative research and muddied inventorship can lead to contentious litigation over valuable

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<sup>52</sup> *Id.* at 171–72 nn.65–69.

<sup>53</sup> 35 U.S.C. §§ 116, 261–62 (1994); see *Ethicon Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1465–66 (Fed. Cir. 1998).

[A] joint inventor as to even one claim enjoys a presumption of ownership in the entire patent. This rule presents the prospect that a co-inventor of only one claim might gain entitlement to ownership of a patent with dozens of claim Thus, where inventors choose to cooperate in the inventive process, their joint inventions may become joint property without some express agreement to the contrary.

*Id.*; see also *Schering Corp. v. Roussel-UCLAF SA*, 104 F.3d 341, 344 (Fed. Cir. 1997) (co-owner of a U.S. patent is “ordinarily free to make, use, offer to sell, and sell the patented invention without regard to the wishes of any other co-owner”).

<sup>54</sup> *Ethicon*, 135 F.3d at 1465 (“[I]n the context of joint inventorship, each co-inventor presumptively owns a pro rata undivided interest in the entire patent, no matter what their respective contributions.”).

<sup>55</sup> *Id.*

<sup>56</sup> *Id.*; see also *Sung*, *supra* note 4, at 435–39.

## RESOLUTION OF INVENTORSHIP DISPUTES

patents.<sup>57</sup> Scientists from Burroughs Wellcome, a pharmaceutical company, collaborated with scientists at the National Institutes of Health (NIH) to test several drug candidates for treating Human Immunodeficiency Virus (HIV) infections.<sup>58</sup> The Burroughs Wellcome researchers had identified several compounds as having laboratory activity against murine retroviruses, while the NIH scientists were able to test the effectiveness of drugs against HIV using a human cell line.<sup>59</sup> Burroughs Wellcome sent several candidate drugs, including AZT to the NIH for testing.<sup>60</sup> After anti-HIV activity was confirmed at the NIH, several patent applications were filed, but the applications listed only five inventors from Burroughs Wellcome.<sup>61</sup> Over the next four years, five related patents were issued.<sup>62</sup> When AZT reached the market and became commercially successful, Barr Laboratories, a generic drug manufacturer, obtained a license originating from the NIH scientists, and petitioned the FDA for approval to produce a generic version of AZT.<sup>63</sup> Barr Laboratories contended that the patents on AZT were invalid, in part for incorrect inventorship.<sup>64</sup> Barr Laboratories' actions precipitated an infringement lawsuit by Burroughs Wellcome.<sup>65</sup> At trial, the patent's validity was challenged for failure to correctly list as inventors three NIH scientists who had completed the anti-HIV testing.<sup>66</sup> Moreover, Burroughs Wellcome was charged with deceptive intent in omitting the NIH scientists—a charge, which if sustained, would have rendered the AZT patents permanently unenforceable.<sup>67</sup> Though the Federal Circuit sustained the District Court's judgment as a matter of law on four of the patents,<sup>68</sup> the case returned to the District Court for further proceedings on the remaining patent.<sup>69</sup>

*Burroughs Wellcome* highlights the need for extra care when

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<sup>57</sup> *Burroughs Wellcome Co. v. Barr Labs., Inc.* 40 F.3d 1223 (Fed. Cir. 1994).

<sup>58</sup> *Id.* at 1225–26.

<sup>59</sup> *Id.*

<sup>60</sup> *Id.* at 1226.

<sup>61</sup> *Id.* at 1225–26.

<sup>62</sup> *Id.* at 1225.

<sup>63</sup> *Id.* at 1226.

<sup>64</sup> *Id.*

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> *Id.* at 1227.

<sup>68</sup> *Id.* at 1231.

<sup>69</sup> *Id.* at 1232.

determining the inventors to list on patents arising from collaborative work. Because the NIH scientists could make an argument that they were inventors, Barr Laboratories could have ended up with a license for “free-agent” inventors.<sup>70</sup> The ownership of extremely valuable patents was threatened by perceived misjoinder.

### *C. Assignees May Improperly Use Mediation to Resolve Inventorship Disputes*

Taken together, the inventorship issues surrounding collaborative research present difficult problems. Resolution of these issues can involve emotional and contentious questions of attribution and property rights. Disputes involving emotionally charged interpersonal relationships, such as inventorship issues in collaborative research, suggest utilization of dispute resolution procedures such as mediation and ombuds.<sup>71</sup>

Intellectual property disputes have often been cited as well-suited for resolution through alternative dispute resolution procedures.<sup>72</sup> Both arbitration and mediation have been suggested as mechanisms to efficiently resolve disputes involving patents.<sup>73</sup> In particular, mediation has beneficial attributes that would justify its utilization for resolving inventorship

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<sup>70</sup> See *id.* at 1226. Had Burroughs Wellcome carefully considered the NIH scientists contributions as inventors, they might have sought a transfer of any interests at the time of filing the patents, even if they did not list them as inventors.

<sup>71</sup> ARNOLD ET AL., *supra* note 3, at 5–1 to 5–7; see Frank Sander & Stephen B. Goldberg, *Fitting the Forum to the Fuss: A User-Friendly Guide to Selecting an ADR Procedure*, 10 NEG. J. 49 (1994), in DISPUTE RESOLUTION, 291–305 (Sander et al. eds., 1999).

<sup>72</sup> See Steven J. Elleman, Note, *Problems in Patent Litigation: Mandatory Mediation May Provide Settlements and Solutions*, 12 OHIO ST. J. ON DISP. RESOL. 759, 774–75 (1997); see generally ARNOLD ET AL., *supra* note 3 (analyzing the rise of ADR procedures in patent disputes and advocating its use); Seymour E. Hollander, *Less Money—And Less of a Gamble? Why ADR may be Superior in Patent Disputes*, 2 INTELL. PROP. STRATEGIST 1 (1995) (discussing the benefits of ADR procedures in patent disputes); Eugene R. Quinn, Jr., *Using Alternative Dispute Resolution to Resolve Patent Litigation: A Survey of Patent Litigators*, 3 MARQ. INTELL. PROP. L. REV. 77 (1999) (detailing the results of implication of a survey examining patent litigators’ attitudes toward mediation and arbitration); Matthew B. Zisk, *Mediation and Settlement of Patent Disputes in the Shadow of the Public Interest*, 14 OHIO ST. J. ON DISP. RESOL. 481 (1999) (weighing the benefits and costs of resolving patent disputes through dispute resolution).

<sup>73</sup> See Elleman, *supra* note 72, at 771–75.

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disputes. Mediation is almost always less costly and less contentious than either arbitration or litigation.<sup>74</sup> The theoretically nonadversarial nature of mediation would avoid destroying a continuing collaborative relationship.<sup>75</sup> Complex technical matters that would prove difficult for an arbiter or fact finder to understand would likely be understood by the skilled potential inventors, who could themselves negotiate a settlement of their dispute.<sup>76</sup> Multiple parties involved in research could fashion a settlement that would be unavailable in a more formalized setting.<sup>77</sup> Impetus to minimize costs and forge an amicable solution will often be overriding criteria favoring utilizing some form of mediation to resolve inventorship disputes.

When an inventorship dispute arises, even if it is not contentious, an assignee or its patent attorney may be inclined to use administrative procedures or informal mediation in an attempt to correctly determine the identity of the true inventors.<sup>78</sup> Intellectual property policies of academic institutions (or those of individual departments) may include procedures for resolving disputes involving inventorship or authorship.<sup>79</sup> Although these

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<sup>74</sup> *Id.* at 774–75.

<sup>75</sup> *Id.* Mediation would be *theoretically* nonadversarial, but the differences in bargaining strength and emotional involvement that engender inventorship disputes would tend to make any dispute resolution process somewhat adversarial.

<sup>76</sup> *Id.*

<sup>77</sup> *See id.* at 775. For instance, excluded potential inventors could obtain a limited license or a one-time payment.

<sup>78</sup> *See* recommendations in Dreyfuss, *supra* note 16, at 1216–20; Patel, *supra* note 40, at 502–05.

<sup>79</sup> *See, e.g.*, Cornell University, *Cornell University Patent Policy*, available at <http://www.research.cornell.edu/CRF/Policies/Patent.html> (last visited Mar. 9, 2003) (copy on file with author) (“Questions of inventorship which remain unresolved shall be determined by the Vice Provost for Research whose decision shall be final. The Vice Provost may seek the advice of the Patent Advisory Committee”); Washington State University, *supra* note 16 (“The Intellectual Property Committee serves as an advisory committee to the President on all University patent, copyright, trademark, and related matters. The committee’s responsibilities include the review of patent, copyright, trademark issues affecting the University . . . .”); Ohio State University, *supra* note 16.

Where there are two or more persons associated with the University claiming to be inventors or creators of an item subject to this Policy, encourage and facilitate an early agreement [in a form acceptable to the University among them] concerning which of the claimants shall be considered inventors or creators for the purposes of this Policy and in what fraction each shall share in the benefits of the Policy.

*Id.* In many cases, authorship or inventorship disputes may be treated as a form of

institutional policies are designed to resolve disputes, their design appears to focus more on quickly and amicably arriving at *any* solution, rather than emphasizing the accuracy of the solution.<sup>80</sup>

In university and government research settings, if two or more potential inventors challenge an administrative determination, the supervisory system may step in to mediate the dispute. While disputing parties may be uninformed about what constitutes inventorship for patent purposes, disputes regarding authorship of research publications are a relatively common occurrence. Department supervisors and laboratory principal investigators will be motivated to promote laboratory morale and research productivity by using informal mediation to quickly resolve disputes over the correct inventors.

When these informal means of dispute resolution are used, even after a full factual investigation, there will be substantial motivation to reach an amicable resolution. Administrative consent may well accompany an informally mediated resolution, because patentable inventions, already a subset of all collaborative research, are more likely to come from the laboratories of well-funded researchers. High levels of research funding would tend to motivate administrators to accede to the wishes of the well-funded principal investigator, unless the judgment of the principal investigator is clearly in error.<sup>81</sup> Similar motivation to maintain collegiality or placate a valuable laboratory supervisor may confront the legal department in private industry.<sup>82</sup>

Institutional review and appeals procedures mimic, and in some cases impose, mediated negotiations aimed at settlement of intellectual property disputes.<sup>83</sup> Authorship of scientific publications is rarely litigated and incidents of litigation over authorship are newsworthy.<sup>84</sup> Mediation of

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academic misconduct (for violating proper attribution) and would be handled under the misconduct policy of the institution. *See, e.g.*, Massachusetts Institute of Technology, *Academic Misconduct and Dishonesty*, available at <http://web.mit.edu/policies/10.1.html> (last visited Mar. 9, 2003) (copy on file with author).

<sup>80</sup> *See* Dreyfuss, *supra* note 16, at 1181 n.77. One policy requires a determination of ownership of patents (which would necessarily require identification of inventors) within eighty days of disclosure. Washington State University, *supra* note 16.

<sup>81</sup> *See* Dreyfuss, *supra* note 16, at 1181 n.77, 1212 n.210.

<sup>82</sup> *Id.* at 1212 n.210.

<sup>83</sup> *See, e.g.*, Dreyfuss, *supra* note 16, at 1181 n.77, 1212 n.210.

<sup>84</sup> *See, e.g.*, Eliot Marshall, *Dispute Splits Schizophrenia Study*, 268 SCIENCE 792, 792-94 (1995) [hereinafter Marshall, *Schizophrenia*] (explaining how a dispute over



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scientific publication authorship disputes is a useful mechanism, in large part because it helps preserve ongoing collegial relationships between research collaborators.<sup>85</sup> Because authorship disputes are apparently resolved without litigation, it is likely that many disputes over inventorship are similarly resolved. The combination of a desire to quickly and amicably resolve disputes, along with the difficult nature of determining inventorship complicates an inventorship determination by agreement. Unfortunately for those seeking rapid and amicable resolution of inventorship disputes, inventorship by agreement does not guarantee a correct inventorship determination.

### III. INVENTORSHIP IS A MATTER OF LAW

#### A. Parties Cannot Consent to Determine Inventorship

Even though parties may attempt to determine inventorship through mediation, the parties' stipulation of inventorship does not legally resolve the dispute.<sup>86</sup> Patents grant a broad monopoly and exclusivity rights to the

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access to data and an agreement on authorship rights "illustrates the fragility of big scientific collaborations"); Eliot Marshall, *Dispute Slows Paper on "Remarkable" Vaccine*, 268 *SCIENCE* 1712, 1712-15 (1995) [hereinafter Marshall, *Paper*] (describing how a published paper that reported efficacy of *Cryptococcus* vaccine was delayed because of authorship dispute among NIH researchers); see also Dreyfuss, *supra* note 16, at 1172 n.35, 1173-77 (describing a number contentious disputes, including the Gallo-Montagnier dispute over the isolation of HIV).

<sup>85</sup> See, e.g., Marshall, *Schizophrenia*, *supra* note 84, at 792; Eliot Marshall, "Better Relationships" the *Stadtman Way*, 268 *SCIENCE* 1713, 1713 (1995). The scientific research publications themselves might describe an invention, but also will usually have limited value as a copyrighted work of expression. Many research publications are actually labeled as "advertisements" due to printing charges.

<sup>86</sup> *James B. Clow & Sons, Inc. v. U.S. Pipe & Foundry Co.*, 313 F.2d 46, 51 (5th Cir. 1963).

[T]he question of who is a first inventor may not be conclusively settled between private parties. No third party is bound by such a settlement, and the patent that issues may be subjected to the question of priority by others. Congress made the public interest dominant in requiring that a patent issue only to the first inventor in fact—not the first inventor by arrangement or agreement. We are unfamiliar with any doctrine that would permit the vesting of the monopoly of a patent in such a manner. The philosophy of the patent law is to reward only the first and original inventor, and for a limited period only, as an incentive for the resulting public good obtained.

owner.<sup>87</sup> To allow parties to consent to inventorship is against public policy, for the limited monopoly of a patent is granted only to the first inventor “[t]o promote the [p]rogress of . . . [the] useful arts . . . .”<sup>88</sup> At best, any administrative procedure designed to resolve intellectual property disputes can only issue an advisory opinion.<sup>89</sup> Aside from instances of assignor estoppel,<sup>90</sup> any interested party can challenge a mediated inventorship designation.<sup>91</sup>

Patents grant a limited monopoly to an inventor or the inventor’s successors in ownership, who then can control the claimed art for the twenty year patent term.<sup>92</sup> To be granted this limited monopoly, patent holders must uphold certain standards of equitable conduct.<sup>93</sup> Patents are public

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*Id.*

<sup>87</sup> See *Bonito Boats, Inc. v. Thundercraft Boats, Inc.*, 489 U.S. 141, 150–51 (1989) (“The federal patent system thus embodies a carefully crafted bargain for encouraging the creation and disclosure of new, useful, and nonobvious advances in technology and design in return for the exclusive right to practice the invention for a period of years.”).

<sup>88</sup> U.S. CONST. art. I § 8, cl. 8; see also 35 U.S.C. § 101 (2000) (providing for a patent to be granted to the inventor); 35 U.S.C. § 102(f) (2000) (“A person shall be entitled to a patent unless—(f) he did not himself invent the subject matter sought to be patented . . .”); 35 U.S.C. § 115 (2000) (an applicant for a patent “shall make oath that he believes himself to be the original and first inventor . . .”).

<sup>89</sup> See, e.g., *James B. Clow & Sons, Inc.*, 313 F.2d at 51; TURANO, *supra* note 43, at 3-33 (citing *Lorenz v. Berkline Corp.*, 215 F. Supp. 869 (N.D. Ill. 1963)).

<sup>90</sup> See *Diamond Scientific Co. v. Ambico, Inc.*, 848 F.2d 1220, 1224 (Fed. Cir. 1988) (holding assignor of a patent is estopped from later challenging the validity of the patent).

<sup>91</sup> A party with standing could challenge a mediated inventorship designation in Federal Court. 35 U.S.C. § 256 (2000); *Chou v. Univ. of Chi.*, 254 F.3d 1347, 1358–59 (Fed. Cir. 2001). A party accused of infringement could challenge patent validity. 35 U.S.C. § 282 (2000).

<sup>92</sup> 35 U.S.C. § 154 (2000); see *Pfaff v. Wells Electronics, Inc.*, 525 U.S. 55, 63 (1998).

[T]he patent system represents a carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances in technology, in return for an exclusive monopoly for a limited period of time. The balance between the interest in motivating innovation and enlightenment by rewarding invention with patent protection on the one hand, and the interest in avoiding monopolies that unnecessarily stifle competition on the other, has been a feature of the federal patent laws since their inception.

*Id.* (citing *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 150–51 (1989)).

<sup>93</sup> *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1178 n.6 (Fed. Cir. 1995).

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documents, with a presumption of validity, once issued.<sup>94</sup> When an inventor, assignee, or patent attorney knowingly acts in a manner contrary to existing law, they are essentially acting against the public interest.<sup>95</sup> Therefore, even if a patent would be otherwise valid, the limited monopoly of a patent may be permanently lost for an equitable violation of the public trust.<sup>96</sup> “The standards for inequitable conduct are not likely to permit enforcement of any patent procured by deceiving” the U.S. Patent and Trademark Office (PTO).<sup>97</sup>

A common defense to a suit for patent infringement is to challenge the validity or enforceability of the patent in suit.<sup>98</sup> One avenue for challenging enforceability is to challenge the inventorship designation.<sup>99</sup> Because outside parties are not bound by a mediated (or arbitrated) determination of inventorship, agreements between researchers or administrative decisions will be ineffective as a defense against allegations of incorrect inventorship.<sup>100</sup>

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<sup>94</sup> 35 U.S.C. § 282 (2000) (“A patent shall be presumed valid.”).

<sup>95</sup> 37 C.F.R. 1.56 (2000) (“A patent by its very nature is affected with a public interest”).

<sup>96</sup> *Stark v. Advanced Magnetics, Inc.*, 119 F.3d 1551, 1555–56 (Fed. Cir. 1997); *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1227 (Fed. Cir. 1994) (“[A] patent may be unenforceable for inequitable conduct when any co-inventors are omitted with deceptive intent.”).

<sup>97</sup> *Stark*, 119 F.3d at 1556; *see, e.g.*, *Glaverbel-Societe Anonyme v. Northlake Mktg. & Supply, Inc.*, 45 F.3d 1550, 1556–57 (Fed. Cir. 1995).

<sup>98</sup> *See, e.g.*, *ADELMAN, ET AL.*, *supra* note 5, at 735.

<sup>99</sup> *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1459 (Fed. Cir. 1998); *see* *Sung, supra* note 4, at 437–38, 438 n.104 (*citing* Dale L. Carson & James R. Barney, *The Division of Rights Among Joint Inventors: Public Policy Concerns After Ethicon v. U.S. Surgical*, 39 *IDEA* 251, 266 (1999) (“[T]he Ethicon decision will spur defendants in patent litigations to search in earnest for latent co-inventors.”)). It should be noted that the pressure to determine the correct inventorship derives substantially from the first-to-invent system used in the United States. *See supra* text accompanying note 5.

<sup>100</sup> *See, e.g.*, *Sung, supra* note 4, at 437 n.103 (quoting Brenda Sandburg, *Witness Flip-Flop Spikes Patent Suit*, *IP MAG.* (Dec. 29, 1998)).

Inventor J. Timothy Rainey made American Dental Technologies, Inc. an offer it couldn't—and it didn't—refuse. For a deal valued by defense lawyers at more than \$500,000, Rainey switched sides in a patent dispute by changing his testimony and dropping his claim that he had invented three dental procedures ADT said it had patented.

*Id.* The patent infringement suit was dismissed by the District Court and was settled

Mediation of an inventorship dispute may actually be counterproductive, since if the mediated inventorship designation is incorrect by legal standards,<sup>101</sup> correction may be blocked by the existence of “deceptive intent.”<sup>102</sup> If a mediated result is agreed upon even though it is knowingly contrary to existing legal standards (such as when a department head or financial backer is listed as an inventor without making a contribution to conception), the entire patent would become unenforceable.<sup>103</sup> An additional risk of mediation is that the initial mediated determination will gain undeserved credence and discourage a change of inventors after an application is filed. Moreover, a change of listed inventors after an application is filed will normally require consent from the originally named inventors and from any assignee.<sup>104</sup> A mediated determination in their favor may limit the likelihood that an inventor or assignee would consent to a correction.

### B. *Enforceability Requires Diligence in Determining Inventorship*

When applying patent statutes, the Federal Circuit has held that inventorship determination is a matter of law.<sup>105</sup> A patent attorney who allows interested parties to self-determine the inventorship entity of a particular patent risks error.<sup>106</sup> If an erroneous designation of inventorship is made, the error can be corrected either administratively during patent prosecution<sup>107</sup> or after a patent issues, either through application to the

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before an appeal to the Federal Circuit was heard. *Id.* See *Am. Dental Techs., Inc. v. Kreativ, Inc.*, No. CIV. A. C-97-374, 1997 WL 706635, at \*1, 45 U.S.P.Q.2d 1221 (S.D. Tex. Sept. 19, 1997), *remanded by* *Am. Dental Techs., Inc. v. Kreativ, Inc.*, 215 F.3d 1347 (Fed. Cir. 1999).

<sup>101</sup> See *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994).

<sup>102</sup> See, e.g., 35 U.S.C. § 256 (2000).

<sup>103</sup> *Stark v. Advanced Magnetics, Inc.*, 119 F.3d 1551, 1553 (Fed. Cir. 1997); *Glaverbel-Societe Anonyme v. Northlake Mktg. & Supply, Inc.*, 45 F.3d 1550, 1556–57 (Fed. Cir. 1995).

<sup>104</sup> See discussion *infra* Section III.B.

<sup>105</sup> *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998); *Stark*, 119 F.3d at 1552.

<sup>106</sup> See, e.g., *Ethicon*, 135 F.3d at 1463; see 1 CHISUM, *supra* note 1, § 2.02 (describing several examples of inventors excluding a known collaborator).

<sup>107</sup> See 35 U.S.C. § 116 (2000) (“Whenever . . . through error an inventor is not named in an application, and such error arose without any deceptive intention on his part, the Director may permit the application to be amended accordingly, under such terms as

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Assistant Commissioner for Patents or through a declaratory judgment action in federal court.<sup>108</sup>

When an error in inventorship is discovered prior to the issuance of a patent, inventorship can be corrected with the consent of each listed inventor being added or removed and the consent of any assignee.<sup>109</sup> In order to administratively change the listed inventive entity on a patent application, both the patent prosecutor and the inventors must file an affidavit affirming that the erroneous inventorship designation was made without deceptive intent on their part.<sup>110</sup> An outside party may challenge the validity of a patent by presenting clear and convincing evidence an omitted individual is actually an inventor of a claimed invention.<sup>111</sup> When a challenger can demonstrate clear evidence that there was deceptive intent in making the erroneous inventorship designation, then the challenged patent may be declared unenforceable.<sup>112</sup>

Any institutional or administrative process for determining inventorship should be designed to ensure that full and accurate disclosure of information regarding contributions of all collaborators is provided. Should any form of inequitable conduct occur, either on the part of the inventors, or on the part of the attorney, the patent may be declared unenforceable.<sup>113</sup> When a patent applicant submits “material false information, or fails to submit material information, with an intent to deceive the PTO,”<sup>114</sup> a court may find there is

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he prescribes.”).

<sup>108</sup> 37 C.F.R. § 1.324 (2000); see 35 U.S.C. § 256 (2000). For an application of this process, see *Winbond Elecs. Corp. v. ITC*, 262 F.3d 1363, No. 01-1031, 2001 U.S. App. LEXIS 25113, \*16–\*18 (Fed. Cir. 2001), *corrected by* 275 F.3d 1344 (Fed. Cir. 2001).

<sup>109</sup> 37 C.F.R. § 1.48a (2000); see 35 U.S.C. § 116 (2000).

<sup>110</sup> 37 C.F.R. § 1.48a (2000); *Acromed Corp. v. Sofamor Danek Group, Inc.* 253 F.3d 1371, 1379 (Fed. Cir. 2001); *Stark*, 119 F.3d at 1556; see 35 U.S.C. § 256 (1994); 1 CHISUM, *supra* note 1, § 2.04[4][c] (“As between the named and omitted inventors, it would seem most logical to focus on the intentions of the true inventors, that is, the inventorship entity as it is sought to be corrected.”).

<sup>111</sup> See *Acromed Corp.*, 253 F.3d at 1379, *citing* *Environ Prods. v. Furon Co.*, 215 F.3d 1261, 1265 (Fed. Cir. 2000).

<sup>112</sup> *Stark*, 119 F.3d at 1553.

<sup>113</sup> See *Demaco Corp. v. F. Von Langsdorff Licensing, Ltd.*, 851 F.2d 1387, 1394 (Fed. Cir. 1988); see also *supra* notes 93–96 and accompanying text.

<sup>114</sup> *Winbond Elecs. Corp. v. ITC*, 262 F.3d 1363, No. 01-1031, 2001 U.S. App. LEXIS 25113, at \*22 (Fed. Cir. 2001) (quoting *Kingsdown Med. Consultants Ltd. v. Hollister Inc.*, 863 F.2d 867, 872 (Fed. Cir. 1988)), *vacated by* *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 866 F.2d 1398 (Fed. Cir. 1989).

inequitable conduct, which would render a patent permanently unenforceable.<sup>115</sup>

Apart from the legal standards that define an inventive contribution, it is critically important to remain aware of the process used to determine the inventive entity of any patent or application.<sup>116</sup> If a thorough process involving a full investigation is used, the likelihood of errors in listing inventors should be reduced. More importantly, a thorough process, perceived as fair by potential inventors should provide the true inventors and patent owners a level of protection from later challenges by unlisted inventors and challengers of the patent's enforceability. Those not listed as inventors are more likely to accept the determination if they participated in the determination process and if they were aware of the reasoning used to reach a decision. The process used, and the ultimate decision made, should be documented, and this documentation could be used later to defend against allegations of deceptive intent in determining inventorship. Evidence of a good faith effort to accurately determine the inventors could help demonstrate the absence of deceptive intent.<sup>117</sup>

Even thoroughly conducted determinations of joint inventorship are difficult and hold potential for error. Errors discovered at a later date (even after the institution of litigation challenging validity) can be corrected, so long as there was no deceptive intent.<sup>118</sup> If the process of determining the inventive entity was initially thorough and unbiased, the likelihood that an issued patent will be unenforceable due to incorrect inventorship should be reduced. In the absence of intentional deception by involved researchers or patent attorneys and with a thorough investigation, it will be difficult to prove deceptive intent with clear and convincing evidence.<sup>119</sup>

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<sup>115</sup> See *Glaverbel-Societe Anonyme v. Northlake Mktg. & Supply, Inc.*, 45 F.3d 1550, 1556-57 (Fed. Cir. 1995) ("Failure to disclose material information during the patent procurement process or the submission of material false information, with the intent to mislead or deceive the patent examiner into granting the patent, may render the patent permanently unenforceable.").

<sup>116</sup> See *Burroughs Wellcome Co. v. Barr Labs., Inc.* 40 F.3d 1223, 1228 (Fed. Cir. 1994); Rivka Monheit, Note, *The Importance of Correct Inventorship*, 7 J. INTELL. PROP. L. 191, 201 (1999); see generally, 1 CHISUM, *supra* note 1, § 2.02 (describing determination of inventorship and the consequences of error).

<sup>117</sup> See *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1461 (Fed. Cir. 1998).

<sup>118</sup> *Id.*; see *Trovan, Ltd. v. Sokymat SA*, No. 99-1474, 99-1488, 2000 U.S. App. LEXIS 22901, at \*16 (Fed. Cir. Sept. 8, 2000) (quoting 35 U.S.C. § 256 (1999)).

<sup>119</sup> If there is intentional deception by either researchers or patent attorneys, a patent

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The U.S. statutory system for awarding patents places a high priority on awarding the patent to the first true inventor.<sup>120</sup> Even if a negotiated settlement to an inventorship dispute avoids mistakes made with deceptive intent on the part of the true inventors, a settlement between potential or actual competitors could result in a violation of the Sherman Antitrust Act if the settlement is anticompetitive.<sup>121</sup> The penalty of antitrust violations could include civil penalties and loss of the patent monopoly.<sup>122</sup>

This public policy basis of awarding the first inventor a patent subjects any negotiated or mediated agreement to jeopardy by an outside party. When collaborating researchers (or their employers) reach a negotiated settlement of an inventorship dispute, the solution may ultimately be more of a problem than litigating an inventorship dispute.<sup>123</sup> If parties disagree over which inventors should be listed on a patent, it is preferable to make a reasoned decision, based on all available facts, than to intentionally list incorrect inventors to amicably resolve a dispute. If assignments of interests are obtained from all potential inventors contemporaneously with the filing of an application, at worst, the inventorship may need to be corrected later.<sup>124</sup>

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will be invalid on the basis of inequitable conduct, whether inventorship is correct or not. *See supra* notes 93–96 and accompanying text.

<sup>120</sup> *See* discussion *supra* Part II.B.

<sup>121</sup> *See* Sherman Antitrust Act, 15 U.S.C. §§ 1–7 (2000).

<sup>122</sup> *Id.*; *see* *Moog Inc. v. Pegasus Lab., Inc.*, 521 F.2d 501, 505–06 (6th Cir. 1975) (stating that one cannot obtain a patent monopoly through a negotiated agreement); *see also* *Zisk, supra* note 72, at 502 n.107.

<sup>123</sup> Most of the considerations counseling against mediation or other non-evaluative methods of dispute resolution for inventorship disputes also apply to settlements of interference actions before the PTO. An “interference” is declared by the PTO when two or more patents or patent applications claiming the same matter have contested priority of invention. 35 U.S.C. §§ 102(g), 135(c) (2000). Because of the same public policies that require U.S. patents be awarded to the first inventor(s), a party cannot stipulate to priority. *See, e.g.,* *Schulze v. Green*, 136 F.3d 786, 791–92 (Fed. Cir. 1998). Settlements of declared interference contests must be approved by the PTO in order to avoid anticompetitive settlements contrary to antitrust laws. *See* 35 U.S.C. § 135(c) (2000). The United States Supreme Court has held that settlements of patent interferences may violate the Sherman Antitrust Act if the settlement is anticompetitive. *U.S. v. Singer Mfg. Co.*, 374 U.S. 174, 195 (1963). For a detailed discussion of this issue *see* *Zisk, supra* note 72, at 501–03.

<sup>124</sup> *See, e.g.,* *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994); *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1461 (Fed. Cir. 1998).

#### IV. WHEN DETERMINING INVENTORSHIP, AN EVALUATIVE INVESTIGATION IS OFTEN WARRANTED

As part of the attorney's duty of good faith and candor, patent attorneys should be mindful of potential for inventorship errors. To avoid inventorship disputes affecting patent validity that erupt years after important evidence is lost, inventors, patent attorneys, and assignees should attempt to have a full investigation of inventorship as soon as possible after disclosure of an invention. Though a preliminary determination may be made, the final designation of inventors will need to be made after the patent application and claims are written, since it is only then that the contribution of individual inventors can be assessed.<sup>125</sup>

##### *A. An Early Independent Evaluation of Inventorship Has Significant Benefits*

In many instances, it may not initially occur to the practitioner that there is any substantial probability that an inventorship dispute will arise. In fact, of the large number of patents issued, relatively few are ever litigated or otherwise challenged due to validity.<sup>126</sup> Of those litigated, only a subset of patents are challenged based on incorrect inventorship.<sup>127</sup>

Nonetheless, a prudent approach would be to adopt an evaluative process designed to ensure that inventorship is correctly identified for every patent. Though the validity of few patents is litigated, when litigation does occur, it will almost certainly be costly, both in the use of resources and monetary expense to the client. In addition, litigation potentially may have a substantial chilling effect on the commercial exploitation of a patented technology.<sup>128</sup>

While the average cost to obtain a patent is approximately \$10,000, litigation costs in a suit involving patent enforcement and validity may approach \$1.5 million per side.<sup>129</sup> Moreover, the most valuable patents are

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<sup>125</sup> TURANO, *supra* note 43, at 3-34.

<sup>126</sup> Approximately 1,600 patent litigation cases are filed each year, while approximately 200,000 patents are issued by the PTO. Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1501 (2001).

<sup>127</sup> *Id.*

<sup>128</sup> *Id.* at 1502; Dreyfuss, *supra* note 16, at 1172.

<sup>129</sup> John H. Barton, *Reforming the Patent System*, 287 SCIENCE 1933, 1933-34



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most are most likely to be litigated.<sup>130</sup> Only after commercial success becomes apparent will litigation be probable.<sup>131</sup> Litigation challenging patent validity cannot be instituted until after a patent has issued.<sup>132</sup> By the time a patent issues, its commercial value may be apparent and infringers then may search for defects to use as tools to invalidate the patent.<sup>133</sup> The value of forestalling as much litigation as is reasonably possible should not be understated. The amount of “value at risk” in the vast majority of patent suits exceeds \$50,000.<sup>134</sup> In his analysis, Dr. Matthew Zisk concludes that the stakes in patent suits are substantially greater than in the average civil suit.<sup>135</sup>

Aside from issues of patent validity, incorrect inventorship introduces substantial risk of triggering complications involving patent ownership.<sup>136</sup> Ownership and inventorship are separate and distinct issues.<sup>137</sup> Whenever inventorship is a question, ownership will be a question unless steps are taken to perfect legal title to the subject matter.<sup>138</sup> An independent, unbiased, and evaluative determination of ownership can help identify individuals with even an uncertain claim of inventorship. Even if a determination is made contemporaneously with the filing of a patent application that certain

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(2000); Lemley, *supra* note 126, at 1501; American Intellectual Property Law Association (AIPLA), *Report of Economic Survey, 1999*, AIPLA, Arlington, VA, tables 21, 22 (1999).

<sup>130</sup> See, e.g., *Chou v. Univ. of Chi.*, 254 F.3d 1347, 1353–55 (Fed. Cir. 2001). Presumably, litigation that far exceeds any reasonable commercial value is less likely to reach a trial.

<sup>131</sup> Lemley, *supra* note 126, at 1501–04; see, e.g., *Burroughs Wellcome Co. v. Barr Labs., Inc.* 40 F.3d 1223, 1228 (Fed. Cir. 1994) (litigation over inventorship of the HIV drug AZT).

<sup>132</sup> Only after the claims in an allowed patent application are finalized can the inventive entity be determined. See 37 C.F.R. § 1.67 (2002). Generally, courts are without authority to correct inventorship before a patent issues. See 35 U.S.C. § 256 (2000); *Chou*, 254 F.3d at 1357.

<sup>133</sup> See, e.g., *Canon Computer Sys., Inc. v. Nu-Kote Int’l, Inc.*, 134 F.3d 1085, 1090 (Fed. Cir. 1998); *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1459 (Fed. Cir. 1998); *Burroughs Wellcome Co.*, 40 F.3d at 1225.

<sup>134</sup> Zisk, *supra* note 72, at 491.

<sup>135</sup> *Id.*

<sup>136</sup> *Sewall v. Walters*, 21 F.3d 411, 417 (Fed. Cir. 1994); see also *supra* text accompanying note 47.

<sup>137</sup> *Sewall*, 21 F.3d, at 417.

<sup>138</sup> See *Beech Aircraft Corp. v. EDO Corp.*, 990 F.2d 1237, 1248 (Fed. Cir. 1993).

individuals are not inventors, an attorney can avoid potential ownership problems that erupt years later by having all participants in the disclosed research execute assignments or waivers to ownership of the subject matter.<sup>139</sup>

Of the many issues that could arise to threaten the validity of an issued patent, determination of inventorship is one of the few issues over which a patent attorney has direct control. On the one hand, as part of the *ex parte* patent prosecution process, determinations of the state of the prior art, obviousness, and the priority of applications are made primarily by examiners at the PTO.<sup>140</sup> These determinations nonetheless can be judicially challenged to invalidate a patent.<sup>141</sup> Inventorship on the other hand, is declared by the patent applicants through their attorneys.<sup>142</sup> While it may not prevent challenges to validity based on inventorship, a diligent, unbiased investigation by the attorney can minimize the chances of a successful challenge, at the very least.

### B. *An Independent Assessment is Important*

The need to accurately and timely draft a patent application is usually given a higher priority than the need to identify the correct inventive entity for that patent application. Only after the application and claims are drafted can the inventive entity be determined, and an application can be filed without a signed declaration by the inventors.<sup>143</sup> When time is of the essence, a patent application can be filed as soon as it is drafted, to establish

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<sup>139</sup> For instance, if employees participating in research disclosed in a patent application were contractually bound to assign their rights in the patent, they could be asked to waive any rights they might have in the application to the employer. *See* 35 U.S.C. § 261 (2000) (applications “or any interest therein, shall be assignable in law” as personal property). If later an individual (who may no longer be an employee) was determined to be an inventor, they would not retain any ownership interest. *Id.*

<sup>140</sup> *See* 35 U.S.C. § 131 (2000) (calling for examination of an application); Patent and Trademark Office, U.S. Dept. of Commerce, Manual of Patent Examining Procedure §§ 1004, 2107–86 (2000) (describing the responsibility of the Examiner and the examination procedures of the PTO).

<sup>141</sup> For instance, they can be challenged by an infringement defendant. *See, e.g.*, 35 U.S.C. § 282 (2000) (setting out rules for invalidity defenses).

<sup>142</sup> 35 U.S.C. § 115 (2000) (applicant for a patent must make an oath that “he believes himself to be the original and first inventor”); *see also* 35 U.S.C. § 116 (2000) (pertaining to joint inventors).

<sup>143</sup> 35 U.S.C. § 111 (2000).

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priority or to avoid statutory time bars, rather than waiting to resolve inventorship.<sup>144</sup> The attorney can list the probable inventors and move to correct inventorship later if the initial determination was in error, so long as the error was without deceptive intent.<sup>145</sup>

The danger for practitioners is that the initial listing of “probable inventors,” by default, becomes the listing of inventors on an issued patent. Though it is usually difficult to gauge in advance, the more valuable the patent becomes, the more likely the patent will be challenged.<sup>146</sup> As described earlier, challenges to patent validity and enforceability are increasingly made on the basis of incorrect inventorship.<sup>147</sup>

In most circumstances, the attorney drafting the patent application will establish a personal relationship with the potential inventors through the patent drafting process. Because of this existing relationship, along with a probable desire to maintain an amicable client relationship, the patent drafter, unfortunately, will find it difficult to avoid all bias in making an inventorship determination. If the drafter of the patent application also has sole responsibility for determining the inventors, there is a substantial risk for a conflict of interest. The attorney with an established relationship with a client will be interested in maintaining that relationship; yet an attorney who determines that her client is not the inventor, or not the sole inventor, risks alienating her client.<sup>148</sup> Even though the patent prosecutor has a responsibility to make the correct inventorship determination, issues of witnesses’ credibility and personal opinions may unavoidably color the determination of inventorship. A neutral third party evaluator, without a personal stake, and unaffected by preconceived notions would be better situated for making delicate inventorship determinations.

Applying these considerations to *Chou v. University of Chicago*

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<sup>144</sup> For instance, under 35 U.S.C. § 102, an inventor can obtain a patent only if an application is filed within one year of the first public sale, or of the public disclosure or release of a printed publication that would enable another to practice the invention.

<sup>145</sup> For applications, see 35 U.S.C. § 116 (2000). For issued patents, see 35 U.S.C. § 256 (2000).

<sup>146</sup> See, e.g., Daniel P. Valentine, Note, *Chou v. University of Chicago: Assigned Patent Rights—Gone But Not Forgotten*, 42 JURIMETRICS J. 493, 499 (2002) (as value of university research increases, so do patent disputes).

<sup>147</sup> See generally Zisk, *supra* note 72; see, e.g., sources cited *supra* note 1.

<sup>148</sup> See, e.g., *Chou v. Univ. of Chi.*, No. 99-C4495, 2000 U.S. Dist. LEXIS 2002, at \*1–\*3 (N.D. Ill. Feb. 18, 2000) (the listed inventor was a member of the National Academy of Sciences, the other potential inventor his subordinate).

demonstrates how an enforced policy of independent assessment could avoid acrimony.<sup>149</sup> The university's attorneys identified the laboratory supervisor, Bernard Roizman, as an inventor, yet there is no indication that they considered the contributions of Joany Chou, one of his postdoctoral researchers.<sup>150</sup> Several research papers were authored by both Chou and Roizman, yet a decision was made to exclude Chou, without her knowledge, from certain inventorship designations.<sup>151</sup> An attorney who had previously worked with Roizman would have a difficult time remaining impartial in the face of his respected opinion. A neutral and disinterested evaluator (acting on behalf of the ultimate patent owner, the university) would be better positioned to sort out the contributions of Chou and Roizman.<sup>152</sup>

Assessment of inventorship by a disinterested third party, acting as a neutral evaluator, would avoid several issues that often lead to an incorrect determination of inventors. A neutral evaluator would be able to provide an unbiased determination and produce a written opinion that can be used to later support his determination, avoiding future challenges to patent enforceability based on inequitable conduct.<sup>153</sup>

By routinely utilizing a neutral evaluator, many of the pitfalls in determining the inventorship entity of a patent might be avoided. If the

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<sup>149</sup> Chou v. Univ. of Chi., 254 F.3d 1347 (Fed. Cir. 2001).

<sup>150</sup> *Id.* at 1353–54.

<sup>151</sup> *Id.* Six research publications list only Chou and Roizman as authors, the most recent being: Joany Chou & Bernard Roizman, *Herpes simplex virus 1 gamma(1)34.5 gene function, which blocks the host response to infection, maps in the homologous domain of the genes expressed during growth arrest and DNA damage*, 91 PROC. NAT'L. ACAD. SCI. U.S. 5247 (1994). (search on file with author).

<sup>152</sup> Chou has been widely discussed regarding its impact on the rights of student researchers, the policies of universities regarding their intellectual property rights, and the fiduciary duties of a university towards its employees and students. See James Ottavio Castagnera, et al., *Protecting Intellectual Capital in the New Century: Are Universities Prepared?*, 2002 DUKE L. & TECH. REV. 10; Kyle Grimshaw, Note, *A Victory for the Student Researcher: Chou v. University of Chicago*, 2001 DUKE L. & TECH. REV. 35; Valentine, *supra* note 146.

<sup>153</sup> If the determination following a complete investigation were written, it could help defense attorneys avoid charges of inequitable conduct by recording the good faith action taken, regardless of whether a written opinion is discoverable during litigation or remains privileged. See 35 U.S.C. § 256 (2000) (providing that court may correct inclusion or omission of an inventor in patent as long as the "error arose without deceptive intention on his part"). If the opinion was discoverable and memorialized deceptive practices, it could help provide clear and convincing evidence of inequitable conduct. *Id.*

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process is carefully structured, additional expense to the patent applicant will be minimized. Small entities, to which additional expense could be problematic, are less likely to have complex collaborative research projects. Larger entities (such as universities or corporations) will often either have attorneys on retainer to handle intellectual property issues, or have their own legal staff.

Industry legal departments and academic intellectual property offices will often have a continuing relationship with certain valuable researchers who supervise the research that produces patentable inventions. These relationships are, nonetheless, different from attorney-client relationships, because the companies or institutions—not the researchers—are the clients. Steps should be taken to avoid having ongoing relationships bias determinations. When a legal department or office has several employees, certain individuals should be designated to act as the evaluator of inventorship determinations. By designating someone other than the prosecuting patent attorney to make a determination of inventorship, these issues of bias can be avoided. The risks of alienating a client could also be minimized by the use of an independent opinion regarding inventorship, especially when analysis reveals that the principal investigator may not, in fact, be an inventor.<sup>154</sup>

It might be expected that researchers who retain their own attorney to prosecute patents will be less likely than institutions to have entanglements that would require a neutral evaluator. Independent researchers (or small entities) involved in collaborations can take contractual steps to avoid ownership problems arising from inventorship disputes. However, accurate identification of inventors is even more essential. A single serious dispute could cause substantial disruption to a small enterprise.<sup>155</sup>

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<sup>154</sup> The presumption by a principal investigator that they are an inventor creates a most delicate quandary for an attorney concerned about alienating a client, for the client may direct the attorney to list the inventorship in an ill-advised manner. *See, e.g., Frank's Casing Crew and Rental Tools v. PMR Technologies, Ltd.*, 292 F.3d 1363, 1368–69 (Fed. Cir. 2002) (company officials failed to list a known collaborator as an inventor); *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1459 (Fed. Cir. 1998) (inventor fails to list collaborator on patent because of termination of professional relationship).

<sup>155</sup> *See, e.g., W.Va. Univ. v. VanVoorhies*, 278 F.3d 1288, 1292–94 (Fed. Cir. 2002); *Kosower v. Gutowitz*, No. 00-Civ.9011, 2000 U.S. Dist. LEXIS 19111, \*2–\*11 (S.D.N.Y. Nov. 21, 2001).

*C. The Format of the Evaluative Investigation Should Reflect the Circumstances*

*1. Factors to Consider When Designing an Evaluation Process*

Several factors should be weighed when determining the appropriate mechanisms for determining inventorship. These factors include whether there are multiple potential inventors, the intensity of emotion over a dispute, the potential for established relationships interfering with the determination, and the potential value of the technology disclosed by an application.<sup>156</sup>

Situations where an independent evaluative assessment is advisable could include: (1) where there are a large number of listed inventors; (2) where a laboratory supervisor is listed—but no bench scientists; (3) where the authorship listed on a paper is different from the inventorship designation on the patent application; (4) where a potential inventor is a former employee; and (5) where a professional relationship has broken down. Of these factors, the identification of multiple potential inventors is one where an evaluative assessment would be especially warranted.<sup>157</sup>

As the number of potential inventors grows, the likelihood for an incorrect determination of inventorship also tends to grow, since contributions of any one individual to the conception of the invention will be increasingly diluted.<sup>158</sup> While large numbers of potential inventors are more difficult to interview efficiently, if there are many inventors, this time investment is offset by the substantially increased risk of an error in inventorship which could later haunt the issued patent.<sup>159</sup>

Most patentable research is eventually either presented in public or published in scientific or trade journals, including research results produced from collaboration between academic or institutional researchers and a private partner.<sup>160</sup> Often, these publications will include extensive lists of

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<sup>156</sup> See Dreyfuss, *supra* note 16, at 1175–77; notes 44–47 and accompanying text.

<sup>157</sup> See Sung, *supra* note 4, at 435–39.

<sup>158</sup> See TURANO, *supra* note 43, at 3-33 to 3-35.

<sup>159</sup> See *supra* notes 53–56 and accompanying text (discussing unlisted inventors having joint and several ownership of an invention); see, e.g., *Burroughs Wellcome Co. v. Barr Lab., Inc.*, 40 F.3d 1223, 1225–27 (Fed. Cir. 1994) (approximately eight researchers from at least two locations involved).

<sup>160</sup> Because 35 U.S.C. § 102(b) creates a statutory bar to the patenting of inventions known to the public for more than one year, patent applicants can publicly reveal their

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authors. The Federal Circuit has acknowledged that listing a person as an author on a publication raises the possibility that the author is also an inventor.<sup>161</sup> Though authorship alone is not sufficient to prove inventorship, it is probable that most, if not all, inventors are listed as authors on a publication describing the research results.

When determining who should be listed as an inventor for a patent application, all of the contributors who have been listed as authors or acknowledged in public presentations or publications should be examined by the neutral third party to determine if they have made an “inventive” contribution. If the authorship and acknowledged contributors are not identical to the inventorship designation, then an infringer could be emboldened to challenge the patent’s validity.<sup>162</sup> For this reason, the neutral third party should routinely provide supporting documentation or explanation contemporaneously with the designation of inventors. These records provide a ready defense against later claims of erroneous inventorship or deceptive intent, even if an error has occurred. When a client has an extensive patent portfolio, it may be difficult to reconstruct the rationale for the determination of inventorship of any particular patent when it is challenged years after the fact.<sup>163</sup>

The risk for a patent attorney who does not diligently investigate inventorship is that a challenger of the validity of a patent could argue that authors not listed as inventors on a patent were improperly excluded.<sup>164</sup>

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inventions after an application has been filed to forestall patenting of the invention by others.

<sup>161</sup> See *Sung*, *supra* note 4, at 438 n.105, *citing* *Canon Computer Sys., Inc. v. Nu-Kote Int’l, Inc.*, 134 F.3d 1085, 1088 (Fed. Cir. 1998) (“Improper inventorship is not presumed simply because a large number of individuals are listed on the patent as joint inventors.”).

[C]o-authors may not be *presumed* to be coinventors merely from the fact of co-authorship. On the other hand, when the PTO is aware of a printed publication, which describes the subject matter of the claimed invention and is published before an application is filed . . . the article may or may not raise a substantial question whether the applicant is the inventor . . . The content and nature of the printed publication, as well as the circumstances surrounding its publication, not merely its authorship, must be considered.

*In re Katz*, 687 F.2d 450, 455 (C.C.P.A. 1982) (emphasis added).

<sup>162</sup> See *Sung*, *supra* note 4, at 438.

<sup>163</sup> At the same time, the added costs associated with drafting written inventorship memos for entities with extensive patent portfolios will be cumulatively substantial.

<sup>164</sup> See *In re Katz*, 687 F.2d at 455; *see also* *Ducor*, *supra* note 39, at 373.

Especially in situations where the listed authors come to be employed or retained by the challenger of patent validity, there may be an incentive for the author to claim inventorship.<sup>165</sup>

Attribution, whether on a research publication or on a patent application, can inflame emotional issues that can be highly disruptive and result in continuing conflict and sometimes litigation.<sup>166</sup> When high levels of emotion are present (as apparent on initial interviews with researchers), an independent evaluative process can serve as a substitute for the mediation-type processes currently utilized by some universities.<sup>167</sup> Because inventorship is a legal standard and not subject to negotiation, an evaluative process should at least provide an opportunity for a disgruntled researcher to be heard.<sup>168</sup>

As a matter of practice, when continuing interpersonal relationships are involved and these relationships are intertwined with a potentially complex inventive entity, the availability of an established evaluative process can provide the involved attorney an outlet for determining inventorship that will offer a determination with enhanced reliability.

Making an estimation of the potential value of a patent application will be difficult, as commercial success is seldom assured when an application is filed.<sup>169</sup> It is rare when an application discloses indispensable technology, technology that has potential to revolutionize a field, or technology representing a substantial improvement on an existing product (whose commercial success is apparent). Therefore, it is rarely obvious that no expense should be spared to assure the validity of a patent. More commonly, an attorney will need to make an educated assessment of the potential value

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<sup>165</sup> See, e.g., *Am. Dental Techs., Inc. v. Kreativ, Inc.*, No C-97-374, 1997 WL 706635, at\*1-\*2 (S.D. Tex. Sept. 19, 1997).

<sup>166</sup> See, e.g., *W.Va. Univ. v. VanVoorhies*, 278 F.3d 1288, 1292-94 (Fed. Cir. 2002); *Acromed Corp. v. Sofamor Danek Group, Inc.*, 253 F.3d 1371, 1379-80 (Fed. Cir. 2001); *Chou v. Univ. of Chi.*, 254 F.3d 1347, 1353-55 (Fed. Cir. 2001); *Kosower v. Gutowitz*, No. 00 Civ. 9011, 2001 U.S. Dist. LEXIS 19111, at \*5,\*20 (S.D.N.Y. Nov. 21, 2001); see generally Marshall, *Schizophrenia*, *supra* note 84; Marshall, *Paper*, *supra* note 84 and accompanying text.

<sup>167</sup> See Sander & Goldberg, *supra* note 71 and accompanying text; see also DISPUTE RESOLUTION, *supra* note 71, at 123-71 (dealing with emotional issues through mediation).

<sup>168</sup> See *supra* Part III.A.

<sup>169</sup> See generally Lemley, *supra* note 126, at 1501-04 (explaining the difficulty of estimating commercial value of an application).



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of an application. When factors other than commercial value suggest using an evaluative investigation, it is reasonable to presume that if a technology is sufficiently valuable to apply for a patent, then it is probably valuable enough to be certain inventorship is accurately determined.

A thorough investigation of inventorship, prior to the issuance of a patent should “short-circuit” certain types of inventorship challenges. If the patent attorney has documented a diligent effort to correctly determine the inventive entity, should new information become available, inventorship could be corrected while avoiding the specter of deceptive intent.<sup>170</sup>

### *2. Evaluative Processes Designed for Specific Situations*

One mechanism to avoid problems with unwitting bias, incomplete information and time constraints is to have an independent evaluation process that is invoked as a matter of policy whenever a significant number of the factors discussed above suggest a potential inventorship issue. Each practitioner will need to balance the additional time and expense involved with the potential value of an application and the potential risks arising from inventorship.

Three types of evaluative processes could be routinely employed: interview of a putative inventor by the patent application drafter, investigative interviews of a number of potential inventors by the draftsman, and a full investigative hearing by an independent evaluator. When an invention is initially disclosed, a practitioner routinely conducts an interview with the putative inventor.<sup>171</sup> If this interview is conducted carefully, it will probably be obvious whether the putative inventor worked alone, or collaborated with other researchers. If there was any collaboration with others, the nature of the collaboration should then be investigated. If it is clear that there was no collaboration, then the need for additional interviews will be avoided.<sup>172</sup> In the simplest of cases, the practitioner can make a

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<sup>170</sup> See 35 U.S.C. § 116 (2000) (patent applications); 35 U.S.C. § 256 (2000) (issued patents).

<sup>171</sup> In almost all cases, it will be necessary to interview potential inventors to determine whether there has been an invention, and whether a patent should be pursued for that invention. *See supra* note 16 and accompanying text (discussion of disclosure process and forms).

<sup>172</sup> It would be prudent to confirm the solo nature of the putative inventor, who may unintentionally fail to recognize contributions of others who may have contributed to the conception of the invention. This is especially true when inventors are working as part of

reasoned judgment that there is no need for further evaluation of inventorship. If the attorney informs the inventor of the requirements for full disclosure and of the penalty of losing patent protection for deceptively violating disclosure, then it will be unlikely that inventorship will be a significant issue.<sup>173</sup>

When the patent attorney receives information (either from an initial written disclosure or from an interview or communication with putative inventors) that there appears to be multiple potential inventors, a more careful evaluation of the facts and circumstances is needed. Potential inventors should be initially identified, and these individuals should be given a short explanation of standards for inventorship, and requested to submit written statements of their individual contributions.<sup>174</sup> For those researchers who made a significant contribution, interviews should be conducted where the attorney can reiterate the importance of full disclosure and the bases for inventorship determinations. Certain individuals, who may at first appear problematic, sometimes may disclose that they do not believe they are inventors. If the attorney agrees, this can simplify a determination. So long as there is no deception by the true inventors or by the attorney, if a determination is made in error, it can usually be corrected.<sup>175</sup>

For collaborative efforts involving three or fewer researchers, and possibly for more complex collaborations, it may often appear clear who the inventors are at this point. An attorney must then weigh the potential for incomplete or incorrect information, whether undue influence from close interpersonal relationships might color a determination, and the potential value of a particular patent and its place in the assignee's portfolio. For patents where the individual contributions are unequivocal, potential for bias is not present, and the technology disclosed does not offer an irreplaceable competitive advantage, an assessment will need to be made whether the additional time and expense required for a more complex inventorship

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a research group, and when the invention appears to have substantial commercial potential. *See Dreyfuss, supra* note 16, at 1212 n.210 (describing directive to exclude bench scientists).

<sup>173</sup> 35 U.S.C. § 115 (2000) requires that "the applicant shall make [an] oath that he believes himself to be the original and first inventor . . ."

<sup>174</sup> First-time inventors will often need to be educated about the differences between authorship and inventorship and about the legal concepts of "conception" and "reduction to practice" that form the basis for inventorship determination. *See supra* notes 12, 40 and accompanying text.

<sup>175</sup> *See* discussion *supra* Part II.B.

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determination is worthwhile. This determination will be based on the specific facts and must recognize the potential risks involved.

Due to time constraints, a patent application may need to be filed after gathering preliminary information from potential inventors and before any more extensive inventorship determination can be made. In such a situation, if there is any uncertainty regarding inventorship, the application should probably be filed without signed declarations to prevent having potential inventors make declarations they will later need to withdraw.<sup>176</sup>

Whenever employee inventors raise any substantial question of inventorship, this should alert their attorney that a more extensive investigation is warranted. As an example, patent policies of many universities provide a procedure where the institution's legal representative makes an inventorship determination soon after an invention's disclosure, and the employee inventors then have an opportunity to appeal that determination.<sup>177</sup> Most university policies that the author has reviewed specifically allow for disputing parties to reach an agreement on inventorship determination.<sup>178</sup> To the extent that it allows inventorship to be determined without following legal standards, this situation should be avoided. Pitfalls of patent invalidity lurk before those negotiating inventorship.<sup>179</sup>

When any significant factors weighing in favor of a full investigation of inventorship are present (such as an appeal of an initial decision), the patent attorney should consider employing an independent evaluator to conduct an investigative hearing.<sup>180</sup> The investigative hearing should be designed to provide an early evaluation of all probable inventors, so that when inventorship declarations are executed as part of a patent application, there would be no need for later correction. The original patent attorney would be

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<sup>176</sup> 37 C.F.R. § 1.53(b) allows an application to be filed without an executed declaration so long as it is timely submitted later.

<sup>177</sup> See *supra* notes 16–18 and accompanying text.

<sup>178</sup> See, e.g., Ohio State University, *supra* note 16.

[W]here there are two or more persons associated with the University claiming to be inventors or creators of an item subject to this Policy, encourage and facilitate an early agreement (in a form acceptable to the University) among them concerning which of the claimants shall be considered inventors or creators for the purposes of this Policy and in what fraction each shall share in the benefits of the Policy.

*Id.*

<sup>179</sup> See discussion *supra* Part II.C.

<sup>180</sup> See discussion *supra* Part III.C.

able to organize the evidence and presentation by identifying individuals likely to have relevant information, requesting written statements and documentation from laboratory notebooks, and describing the evaluation process to participants.

The independent evaluator should be chosen to avoid entanglements of continuing relationships between researchers and the evaluator. The evaluator should also have the necessary skill and experience in determining inventorship. Since many practicing patent attorneys will have the requisite skills, independence of evaluation and minimization of additional expense will be primary considerations. Organizations utilizing more than one attorney to handle patent matters (such as many corporate legal departments) can easily designate either a disinterested in-house attorney to perform the evaluation, or retain previously identified outside counsel for this purpose. Having an evaluative procedure and a policy for employing it in place prior to a dispute will encourage implementation of procedure when a dispute *does* arise. With a procedure in place and designated evaluators identified, the independent evaluation of inventorship could be completed in a timely manner.

In universities or other analogous settings, when a dispute arises over inventorship, rather than relying on informal processes or mediation, an evaluative procedure should be set in place and implemented when a valuable invention is identified.<sup>181</sup> If the institution routinely utilizes outside attorneys to draft patent applications, an outside attorney chosen for his or her impartiality could be retained to evaluate the invention and resolve the dispute. Even if retention of outside counsel is not routine, if the institution determines that an invention is sufficiently promising to be valuable, then it would likely be sufficiently valuable to merit an inventorship investigation (if other factors weighing in favor of an investigation are present).<sup>182</sup>

The application of these criteria to two cases previously discussed, *Chou v. University of Chicago* and *Burroughs Wellcome Co., v. Barr Laboratories, Inc.*, would demonstrate that “warning signs” were present that could have

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<sup>181</sup> Most university patent policies are such that patent applications are filed only for inventions the institution designates as valuable. See, e.g., University of Wisconsin System, *Bringing Your Invention to Wisys*, available at <http://www.wisc.edu/wisys/system/bring.html> (last visited Mar. 10, 2003) (copy on file with author); Ohio State University, *supra* note 16; Cornell University, *supra* note 79; Massachusetts Institute of Technology, *supra* note 79.

<sup>182</sup> See Dreyfuss, *supra* note 16, at 1175–76. See *infra* note 199 and accompanying text for a discussion of time and expense factors.

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prompted the attorneys to make a full investigation of inventorship.<sup>183</sup> In *Chou*, even though there was a relatively small group of researchers working for Roizman, several of the publications from the lab listed more than three authors.<sup>184</sup> When informed of the research publications, the attorney representing Roizman or the University could have requested an interview with the contributors and discussed their contribution with Roizman.<sup>185</sup> Even a brief interview with Chou would have been likely to unearth the foundation of the later inventorship suit between Roizman and Chou. The university could easily recognize the commercial potential of the work being done in Roizman's lab, as he was a renowned researcher producing recognized results.<sup>186</sup>

*Burroughs Wellcome* on the other hand, bore hallmarks of the potential for an ownership or inventorship dispute almost from the start of the collaboration.<sup>187</sup> Multiple researchers, employed by different entities were working somewhat independently—on different continents—to study AZT, a drug with activity against HIV.<sup>188</sup> Once the drug was known to have activity against HIV in human cells, a patent application was almost immediately filed.<sup>189</sup> There were clear signals that an inventorship dispute could erupt. It seems obvious that it would be easier to sort out the rights and obligations of all parties involved before the commercial potential of AZT was assured.<sup>190</sup>

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<sup>183</sup> *Chou v. Univ. of Chi.*, 254 F.3d 1347, 1358–61 (Fed. Cir. 2001); *Burroughs Wellcome Co. v. Barr Laboratories, Inc.*, 40 F.3d 1223, 1226–27 (Fed. Cir. 1994). It should be noted that the available case reports do not discuss the method of inventorship determination.

<sup>184</sup> *Chou*, 254 F.3d at 1353–54; Twelve research publications appeared between 1985 and 1986 bearing both Roizman and Chou as authors. Nine of these publications listed more than three authors. See search, *supra* note 151.

<sup>185</sup> See *Chou*, 254 F.3d at 1353 (alleging Roizman intentionally kept the patent applications secret); U.S. Patent No. 5,328,688 (issued July 12, 1994) (listing several of the research publications Roizman and Chou co-authored). The District Court judge granted a motion to strike from the record part of Chou's pleadings as unnecessary and scandalous. *Chou v. Univ. of Chi.*, No. 99 C 4495, 2000 U.S. Dist. LEXIS 2002, at \*2–\*5, \*13–\*14 (N.D. Ill. Feb. 18, 2000).

<sup>186</sup> *Chou*, 2000 U.S. Dist. LEXIS 2002, at \*2–\*5 (noting Roizman's membership in the National Academy of Sciences and his extensive work studying HSV).

<sup>187</sup> *Burroughs Wellcome*, 40 F.3d at 1225–27.

<sup>188</sup> *Id.*

<sup>189</sup> *Id.* at 1226 (explaining that the activity was reported by telephone on Feb. 20 and the patent application was filed on Mar. 16).

<sup>190</sup> See Dreyfuss, *supra* note 16, at 1174–79, & nn.37, 47 (discussing the difficulty

Once a billion dollar payoff appears possible, cooperation between the parties is threatened.<sup>191</sup>

An investigative hearing structured as a modified form of "Early Neutral Evaluation" or a hearing before a special master would fit the needs of inventors and assignees.<sup>192</sup> The evaluator could conduct an informal hearing, where potential inventors and other interested parties would be interviewed in person and asked to provide documentation of their research contribution. By striving for an informal setting, candor and full disclosure by participants should be encouraged.<sup>193</sup> The ability to directly question inventors and examine original documentation would allow an evaluator to fully explore individual contributions. An informal hearing would afford inventors a greater opportunity to explain their role than a simple written explanation.<sup>194</sup> The hearing should be designed, foremost, to ensure that all relevant information is considered and that a rigorous, diligent, and good faith determination of inventorship is made.

The researchers who participate in the investigative hearing should be informed of the need for an accurate determination,<sup>195</sup> and of the need for

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in effectively forging a pre-collaboration contract).

<sup>191</sup> *Id.*

<sup>192</sup> See ARNOLD ET AL., *supra* note 3, § 12.04; DISPUTE RESOLUTION, *supra* note 71, at 271–90, 374–85; See generally Christine E. Sherry, *Unique Form of ADR Achieving Popularity*, LITIG. NEWS, Dec. 1990, at 5, ("Early Neutral Evaluation" offers a "confidential, non-binding conference where the parties and their counsel present the factual issues and legal bases of their case to one another and to a trained, court-appointed attorney with expertise in the subject matter.").

<sup>193</sup> In many ways the traditional role of the ombudsman is applicable, with the difference being that the evaluator would need to be skilled in patent law and would need to make an evaluation that is, in essence, binding. See generally Mary P. Rowe, *The Ombudsman's Role in a Dispute Resolution System*, 7 NEGOT. J. 353 (1991) (discussing the cost-effectiveness of a dispute resolution system with an impartial ombudsman serving as the complaint handler); L. SINGER, *SETTLING DISPUTES*, 99–102 (2d ed. 1994), reprinted in DISPUTE RESOLUTION, *supra* note 71, at 287–91 (differentiating ombudspeople from in-house mediators).

<sup>194</sup> At the same time, a hearing offers researchers, who may be disaffected by a determination they are not inventors, an opportunity to be heard and have their contributions considered.

<sup>195</sup> The attorney can take the opportunity to briefly explain inventorship law, and explain the requirement for candor and the consequences of withholding information. See *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1187 (Fed. Cir. 1995) (consequences of misinformation); 37 C.F.R. § 1.63 (2002) (contents to Oath or Declaration); 37 C.F.R. § 1.56 (2002) (duty of candor); *supra* notes 31–33.

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the evaluator to make a decision as to who will be listed as inventors on the patent application.<sup>196</sup> Finally, the basis for the inventorship determination should be memorialized, so that if the validity of the issued patent is ever challenged, the basis for the inventorship determination (presumably without deception by any of the true inventors) will be clear.<sup>197</sup> A summary of this memorandum could be provided to the participants in the investigation if there were no overriding concerns of confidentiality.

An investigative hearing should be completed in a short time, probably less than one day, especially if there are relatively few potential inventors. Though almost half of patented inventions have an inventorship entity of three or more inventors,<sup>198</sup> the more inventors involved, the more difficult it would likely be to weigh the contributions of the individual researchers. Most of the information needed for the hearing would need to be gathered in any circumstance in order to file the patent application. The primary expense would be the involvement of an additional patent attorney to act as an evaluator of inventorship. The additional burdens of time (for the researchers and attorneys) and legal fees will be minimal compared to the total cost of prosecuting an application.<sup>199</sup>

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<sup>196</sup> Organizations can structure reward programs or royalty arrangements so that researchers making contributions that do not warrant inventorship share in the benefits of collaborative research. This will minimize incentive to overstate contributions. Moreover, authorship is normally more broadly bestowed than inventorship. *See supra* notes 40–42.

<sup>197</sup> As recounted to the author, most attorneys do not see the need to “paper every decision,” nor will clients be eager to bear the additional expense. Experience and a feel for the particular situation at hand will help determine if a written report is necessary. If an attorney feels an independent evaluation is warranted, presumably there are sufficient aggravating factors present to justify a written memorandum to the case file.

<sup>198</sup> In a small random sample the author took of patents issued by the U.S. PTO in 2001, 44% listed three or more inventors. *See, e.g.,* John R. Allison & Mark A. Lemley, *Who’s Patenting What? An Empirical Exploration of Patent Prosecution*, 53 VAND. L. REV. 2099, 2119, 2157 tbl.12. (2000) (average number of inventors in pharmaceutical and biotechnological art groups was almost three); Ducor, *supra* note 39, at 873 (comparing 40 issued patents with the scientific publication describing the invention and finding that 38 publications listed more authors than the patent listed inventors). In 1998, less than 30% of issued patents went to sole inventors. *See* Lucius L. Lockwood, Note, *Ready, Set, Patent! How the Supreme Court in Pfaff v. Wells Electronics Jumped the Gun*, 40 JURIMETRICS J. 399, 409 n.79 (2000).

<sup>199</sup> *See* American Intellectual Property Law Association (AIPLA), *supra* note 129, at tbls. 21, 22.

*D. An Independent Determination of Inventorship Serves  
All Interested Parties*

An independent evaluator conducting an investigatory hearing serves both the inventors and any assignee. Correct inventorship, required for validity of a patent, recognizes the legal basis for the contributions of inventors, protects the inventor's rights of attribution and ownership, clarifies ownership rights of all interested parties, and protects the public interest of granting patent monopolies under limited circumstances.<sup>200</sup>

The more independent the evaluator, the more likely the determination will be free from biases contaminating the inventorship determination. Researchers who are afforded an opportunity to fully describe their contribution will be more likely to be satisfied with the determination than if they did not have an opportunity to be heard. By making an early independent determination, a patentee is protected from loss of information should a challenge to inventorship occur years later. To a lesser extent, the patentee is also protected from accusations of inequitable conduct should a correction of inventorship be required at a later date.

Without knowledge of the true inventors, a putative owner of a patent cannot be granted assignment by the true inventors and establish clear title. A contentious debate over correct inventorship might erupt, only after the value of a particular patent becomes clear. At that point it may be difficult for a prospective owner of an invention to obtain title to a patent from a disgruntled, wrongly excluded inventor.

While an extended process to determine joint inventorship may appear in certain instances to be an unnecessary additional burden, the benefit of increased resilience of issued patents from validity attacks grounded on inventorship disputes often outweighs this burden. A patentee is better served by being certain that the correct inventors are named. If it is abundantly clear that the correct inventors have been named, the public interest of having an accurate patent document is upheld. Expectations of patent validity and reductions in litigation over inventorship serve societal goals of judicial economy.

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<sup>200</sup> See, e.g., *Chou v. Univ. of Chi.*, 254 F.3d 1347, 1358–61 (Fed. Cir. 2001); *Frank's Casing Crew & Rental Tools v. PMR Technologies, Ltd.*, 292 F.3d 1363, 1368–69 (Fed. Cir. 2002); *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994); *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63 (1998).



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### V. CONCLUSION

Correct inventorship is necessary for maintaining enforceability of a patent. Collaborative research often results in multiple joint inventors. Since inventor status is a matter of law, patent owners should avoid allowing interested parties to determine inventorship by consensus or other dispute resolution mechanisms that do not base an inventorship decision on a factual application of the law.

To avoid incorrect inventorship designations, patent prosecutors should take steps to investigate all relevant facts and interview possible inventors. At the least, authors or contributors to research publications or presentations should be investigated and a determination of their possible inventorship status should be made.

For institutions with sufficient resources, an independent arbiter can be designated to make an independent, neutral determination of inventorship for important patent applications. The neutral determination can be used to help forestall challenges of inventorship brought by disgruntled researchers or challengers of patent validity. A written memorandum regarding the neutral inventorship determination can help defend allegations of deceptive intent, should an error in designating inventorship be made. While preemptive efforts to defend patent enforceability challenges may not actually avoid litigation, a thorough neutral determination is superior to a mediated decision, and may be sufficient to prevent a trial on the issue of deceptive intent.

