

Bullies and Beakers: How Large Universities are Squashing Research Competition and the Contractual Remedies to Solve It

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INTRODUCTION

The health sciences and biotechnology are booming research sectors.² Due to the highly technical nature of this research, universities are in a unique position to aid private industry and seek cures and remedies for public health issues.³

As in the private sector, competition among research universities for funding and prestige is fierce.⁴ Though this competition appears to stimulate innovative research, this competition also leads to a consolidation of innovative research among the well-funded and elite universities.⁵

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2. Bradley J. Fikes & Gary Robbins, *USC Siphons Away Most of Alzheimer's Program*, SAN DIEGO UNION-TRIB. (Aug. 29, 2015) [hereinafter *USC Siphons*], <http://www.sandiegouniontribune.com/news/2015/aug/29/ucsd-usc-alzheimers-aisen-cooperative-study/>; Bradley J. Fikes & Gary Robbins, *USC Eyes Big Presence in San Diego*, SAN DIEGO UNION-TRIB. (July 16, 2015) [hereinafter *USC Eyes*], <http://www.sandiegouniontribune.com/news/2015/jul/16/usc-ucsd-expand/>.

3. PETER DALY, *THE BIOTECHNOLOGY BUSINESS* 51 (1985) (“Biotechnology emerged, therefore, as a direct result of technology transfer from the universities which originally were the only places where the expertise existed”); see Liza Vertinsky, *Universities as Guardians of Their Inventions*, 2012 UTAH L. REV. 1949, 1951.

4. See Daniel J. Howard & Frank N. Laird, *The New Normal in Funding University Science*, Vol. XXX Issue 1, *ISSUES IN SCI. & TECH.* (2013), <http://issues.org/30-1/the-new-normal-in-funding-university-science/> (“Government funding for academic research will remain limited, and competition for grants will remain high”); see, e.g., *USC Eyes*, *supra* note 2 (USC previously attempted to acquire or merge with The Scripps Institute in La Jolla. Scripps faculty and researchers pressured Scripps’s board to terminate the deal. “The setback didn’t scare off USC, which has been trying hard for the past six years to raise its modest standing in the life sciences.”).

5. See Howard & Laird, *supra* note 4 (“Since the founding of NSF in 1950, the research enterprise on university campuses in the United States has grown rapidly The competitive

Well-funded universities have the power to lure researchers away from small research universities by offering them lucrative compensation packages and other intangible benefits.⁶ In exchange, the large university usually gains access and control over the researcher's projects and any private funding for those projects.⁷ Small research universities simply cannot compete with many of the offers made by well-funded research universities.⁸ When researchers leave the small research university, they often leave the university in a poor position to recover from their exit.⁹ I contend that small research universities are not properly incentivized to begin innovative research because their researchers, programs, and funds may be poached by a well-funded university. My Note identifies this disincentive and argues that it is entirely inconsistent with, and damaging to, the overall search for cures and remedies to diseases and other public health problems.

I propose that small research universities use two preexisting, but dramatically underused, remedies as shields to adequately protect themselves against well-funded research universities: assignment agreements and liquidated damage provisions in the researcher's employment contract. When the university employs researchers, the researchers are usually forced to sign an assignment agreement and an employment agreement as a precondition to employment.¹⁰ Depending on the language of the assignment agreement, the university may retain ownership to any patents or copyrights invented or conceived of while employed by the university. This agreement disincentivizes competing universities from luring away researchers under the pretense of acquiring the researcher's patents and/or

grants system encouraged such growth."); National Science Foundation, *Rankings by Total R&D Expenditures*, <https://ncesdata.nsf.gov/profiles/site?method=rankingBySource&ds=herd>.

6. See, e.g., Fikes, *infra* note 126 (USC encouraged Aisen away from UCSD by offering, among other incentives, "a \$500,000 annual salary guaranteed through 2020").

7. See *infra* notes 77–78 and accompanying text; e.g., *USC Siphons*, *supra* note 2. ("USC said it has obtained eight of the project's 10 main contracts after convincing sponsors that it is better suited to manage their clinical trials of experimental drugs and therapies for the neurological disorder. Those sponsors are defecting from the Alzheimer's Disease Cooperative Study, or ADCS, and shifting to an institute that USC recently opened in San Diego.")

8. See Fikes, *infra* note 126.

9. *USC Siphons*, *supra* note 2.

10. See generally *Bd. of Tr. of Leland Stanford Jr. Univ. v. Roche Molecular Sys. Inc.*, 131 S. Ct. 2188, 2199 (2011).

copyrights. The liquidated damages provision allows a university to receive damages when a researcher breaches the contract by leaving the university for a competitor.

Part I of this Note discusses the history of legal ownership of employee intellectual property. More specifically, this section examines both the historical and current relationship between universities and the private sector, congressional efforts to bolster innovative research, and the relevant case law interpreting this legislation. Part II of this Note analyzes the history of employee ownership of intellectual property and proposes two solutions to the issue described in the preceding paragraph.

I. HISTORY

A. Legal Ownership of Employee Intellectual Property

Generally, principles of patent law, copyright law, contract law, and the common law determine ownership of patents and copyrights within the context of an employment dispute.¹¹ Patent law and copyright law create property rights,¹² while contract law governs the allocation of these property rights.¹³ In consideration for supplying researchers or inventors with the physical and financial resources necessary for invention and other original works, employers seek control of employee intellectual property by requiring present or future assignment of rights as a prerequisite to employment.¹⁴ If an employment contract does not exist or is somehow unenforceable, the common law contains default ownership rules that apply to inventions and other works generated by employees.¹⁵

11. See generally Robert P. Merges, *A Transactional View of Property Rights*, 20 BERKELEY TECH. L.J. 1477, 1479–1504 (2005) (describing how property rights facilitate contracting).

12. David A. Rice, *Public Goods, Private Contract and Public Policy: Federal Preemption of Software License Prohibitions Against Reverse Engineering*, 53 U. PITT. L. REV. 543, 545 (1992).

13. See Sean O'Connor, *Controlling the Means of Innovation: The Centrality of Private Ordering Arrangements for Innovators and Entrepreneurs*, in HANDBOOK ON LAW, INNOVATION, AND GROWTH 274, 282 (Robert E. Litan ed., 2011).

14. See Robert P. Merges, *The Law and Economics of Employee Inventions*, 13 HARV. J.L. & TECH. 1, 1–3 (1999).

15. *Id.* at 5.

United States v. Dubilier Condenser Corp.,¹⁶ decided in 1933, is the foundational case addressing patent ownership arising out of employment.¹⁷ According to the United States Supreme Court, if a government employee is hired to invent a specific invention succeeds, then the ownership rights to that specific invention must be assigned to the employer.¹⁸ However, if the employee is employed in a general field and this employee produces an invention for which the employee obtained a patent, the employee retains the ownership rights to that patent.¹⁹ Although *Dubilier* addresses ownership rights of the government and its employees, this case has also been applied to employment relationships in the private and academic sectors.²⁰

However, *Dubilier* generally does not govern employer-employee inventions because university researchers are generally not hired specifically to invent.²¹ As such, university researchers who obtain patents and have not assigned away their ownership rights retain legal ownership in their inventions. *Dubilier*'s effect was also substantially limited by economic and technological growth following World War II.

B. The Birth of the University-Industry Research Relationship

Following World War II, the United States experienced an economic surge created by a boost in production and innovation.²² To

16. 289 U.S. 178, 187 (1933) (holding that the United States, like any other employer, must specifically employ the inventor to devise the specific invention to retain ownership rights in the invention).

17. Pat K. Chew, *Faculty Generated Inventions: Who Owns the Golden Egg*, 1992 WIS. L. REV. 259, 262 (1992) (“[i]ts principles have been consistently applied to a broad range of employment settings”).

18. *Dubilier*, 289 U.S. at 187.

19. *Id.*

20. Chew, *supra* note 17, at 265. See, e.g., *Bd. of Tr. of Leland Stanford Jr. Univ. v. Roche Molecular Sys., Inc.*, 563 U.S. 776 (2011).

21. *Id.* at 302 (“While research is an important factor in hiring, tenure, and promotion decisions, university faculty are not required to research a specific subject or to produce any particular work product.”).

22. *The Bayh-Dole Act, a Review of Patent Issues in federally Funded Research: Hearing on Pub. L. No. 96-517 Before the S. Comm. on Patents, Copyrights and Trademarks of the Comm. on the Judiciary*, 103rd Cong. 67 (1994) (post-war history). See generally Ashley J. Stevens, *The Enactment of Bayh-Dole*, 29 J. TECH. TRANSFER 93 (2004) (summarizing the circumstances leading to the Bayh-Dole Act); Steve L. Bertha, *Intellectual Property Activities*

maintain this level of production and innovation, the United States turned to domestic industry and its large network of universities.²³ However, by the 1970s, production and innovation waned not only because of United States government policy mandating federal ownership of patents derived from federal funding,²⁴ but also because the government lacked resources to commercialize these patents.²⁵ Due to government policy withholding exclusive patent rights from private industry, companies were simply unwilling to invest in commercializing federally funded technologies.²⁶ As a result, very few federally funded technologies were commercialized.²⁷ Congress attempted to remedy this problem by passing the Bayh-Dole Act.

in U.S. Research Universities, 36 IDEA 513, 514 (1996). Partly in response to the success of scientific-military projects conducted in conjunction with U.S. universities, the federal government expanded funding for scientific research at American universities. Bertha, *supra*, at 514. Policymakers expected that academics would publish their federally funded results in public scientific journals. *Id.* Private industry would use this publicly available information to develop and commercialize related products and processes. *Id.*

23. *Id.* at 514.

24. Stevens, *supra* note 22, at 94; *The Bayh-Dole Act, a Review of Patent Issues in Federally Funded Research: Hearing on Pub. L. No. 96-517 Before the S. Comm. on Patents, Copyrights and Trademarks of the Comm. on the Judiciary*, 103rd Cong. 13 (1994) [hereinafter Hearing] (statement of Sen. Birch Bayh). The government offered only non-exclusive licenses on patented inventions to private companies who wished to commercialize the technologies. Hearing, *supra*, at 13. There was no uniform set of nonexclusive licenses because individual federal agencies had their own independent internal procedures and regulations, often conflicting with other agencies. Allen, *infra* note 26, at 21. Policymakers believed that granting exclusive rights to non-government entities would improperly divert financial benefit from taxpayers to organizations concerned only with profit. Hearing, *supra*, at 13.

25. 95 Cong. Rec. S15, 034 (daily ed. Sept. 13, 1978) (statement of Sen. Birch Bayh). Research and development was not only extremely expensive, but also only amounted to an estimated twenty-five percent of the costs necessary for commercialization. Hearing, *supra* note 24, at 17 (statement of Sen. Robert Dole). In addition, total development costs often exceeded federal funding by a ratio of ten to one. 95 Cong. Rec. S15, 034 (daily ed. Sept. 13, 1978) (statement of Sen. Birch Bayh).

26. 124 Cong. Rec. 29, 118 (1978) (statement of Sen. Robert Dole); Joseph P. Allen, *A Long, Hard Journey: From Bayh-Dole to the Federal Technology Transfer Act*, TOMORROW'S TECH. TRANSFER, Winter 2009, at 21.

27. Hearing, *supra* note 24, at 13, 17 (statements of Sen. Birch Bayh & Sen. Robert Dole) (noting that of the 28,000 inventions to which the federal government held title prior to 1980, only five percent were licensed and less than four percent were commercialized).

1. The Bayh-Dole Act

In 1980, Congress passed the Bayh-Dole Act²⁸ (BDA) to incentivize researchers and private industry professionals to commercialize federally funded technologies.²⁹ The BDA was established as a three tiered hierarchy of intellectual property rights stemming from these federally funded technologies.³⁰ The BDA granted federally funded small businesses and nonprofit organizations (contractors) exclusive patent rights to inventions developed by their employees using federal funds.³¹ These contractors were required to share any royalties flowing from the invention with their employees who devised the invention.³² If the federally funded contractors elected not to retain title to the inventions, the BDA gave the federal government the opportunity to acquire title to the inventions.³³ Lastly, if both the federally funded contractor and the federal government elected not to acquire title to the inventions, the employee who devised the invention would receive title.³⁴ The U.S. Supreme Court in *Stanford v. Roche*³⁵ further interpreted the BDA's assignment provision.

28. Bayh-Dole Act of 1980, Pub. L. No. 96-517, 94 Stat. 3015 (codified as amended at 35 U.S.C. §§ 200–11 (2000)).

29. 124 Cong. Rec. 29, 118 (1978) (statement of Sen. Robert Dole).

30. See 35 U.S.C. § 202 (Westlaw through Pub. L. No. 114-316) (describing contractor's property rights and employee-inventors' financial rights to federally funded inventions); 35 U.S.C. § 203 (Westlaw through Pub. L. No. 96-517) (describing the government's "march-in rights" to contractor owned inventions); *Fenn v. Yale Univ.*, 393 F. Supp. 2d 133, 137 (2004).

31. 35 U.S.C. § 202(a) ("Each nonprofit organization or small business firm may, within a reasonable time after disclosure as required by paragraph (c)(1) of this section, elect to retain title to any subject invention"); 35 U.S.C. § 201(e) (Westlaw through Pub. L. No. 114-316) ("The term 'subject invention' means any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement.").

32. 35 U.S.C. § 202(c)(7)(C) ("[A] requirement that the contractor share royalties with the inventor.").

33. 35 U.S.C. §§ 202(c)(2)–(3).

34. 35 U.S.C. § 202(d) ("If a contractor does not elect to retain title to a subject invention in cases subject to this section, the federal agency may consider and after consultation with the contractor requests for retention of rights by the inventor subject to the provisions of this Act and regulations promulgated hereunder.").

35. *Bd. of Tr. of Leland Stanford Jr. Univ. v. Roche Molecular Sys., Inc.*, 563 U.S. 776 (2011).

2. Board of Trustees of Leland Stanford Junior University v. Roche Molecular Systems Inc.

In 2011, the United States Supreme Court heard *Stanford v. Roche*, a patent dispute between a private research university and a private corporation.³⁶ Stanford sued Roche Molecular Systems in the United States District Court for the Northern District of California alleging that Roche's HIV testing kits infringed Stanford's patents.³⁷

Around 1988, Dr. Mark Holodniy became a researcher at Stanford University's Department of Infectious Diseases.³⁸ Upon joining Stanford, Holodniy signed a Copyright and Patent Agreement "agree[ing] to assign" Stanford his "right, title and interest in inventions resulting from his employment at [Stanford]."³⁹ Soon after, Holodniy was sent to Cetus, a small California company, to learn a process critical to his HIV research.⁴⁰ Prior to joining Cetus, Holodniy signed an agreement stating that he "will assign and do hereby assign" to Cetus his right, title, and interest in each of the inventions made as a consequence of his engagement with Cetus.⁴¹ While at Cetus, Holodniy developed a procedure to measure the HIV levels in a patient's blood.⁴² Holodniy returned to Stanford to further develop the procedure.⁴³ Stanford filed and secured several patents resulting from Holodniy's process.⁴⁴ In 1991, Roche Molecular Systems acquired Cetus's assets in Holodniy's process, commercialized them, and began selling HIV testing kits worldwide.⁴⁵

The district court ruled for Stanford, holding that although Holodniy assigned all his rights in his inventions to Cetus, Holodniy never had the right to assign because under the BDA's hierarchy of

36. *Id.*

37. *Id.* at 782.

38. *Id.* at 781.

39. *Id.*

40. *Id.*

41. *Id.*

42. *Id.*

43. *Id.* During this time Stanford obtained written assignments of rights to Holodniy's procedures from all employees, including Holodniy. *Id.*

44. *Id.*

45. *Id.*

rights, Stanford had paramount title.⁴⁶ The Federal Circuit Court of Appeals reversed the district court decision, holding that Holodniy's agreement with Stanford constituted a "mere promise to assign rights in the future"⁴⁷ while Holodniy's agreement with Cetus automatically and affirmatively assigned Holodniy's interest in his inventions to Cetus.⁴⁸ Thus, Cetus's rights in Holodniy's inventions trumped Stanford's interest, and Cetus obtained full title to the HIV testing patents.⁴⁹

In a 7-2 decision, the Supreme Court affirmed the circuit court's judgment in favor of Roche, holding that The BDA does not automatically vest title to federally funded inventions in federal contractors or authorize contractors to unilaterally take title to such inventions.⁵⁰ The Court determined that the BDA applied⁵¹ and because Stanford complied with all contractor requirements of the BDA, Stanford was entitled to retain interest in the subject inventions granted by the BDA.⁵² However, the Court did not elaborate on what exactly these contractor rights were. Citing *Dubilier*,⁵³ the Court reasoned that absent any agreement to the contrary, because inventors

46. *Id.* at 784; compare 35 U.S.C. § 202(a) ("Each nonprofit organization or small business firm may, within a reasonable time after disclosure as required by paragraph (c)(1) of this section, elect to retain title to any subject invention"), and 35 U.S.C. § 201(e) ("The term 'subject invention' means any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement."), with 35 U.S.C. § 202(d) ("If a contractor does not elect to retain title to a subject invention in cases subject to this section, the federal agency may consider and after consultation with the contractor requests for retention of rights by the inventor subject to the provisions of this Act and regulations promulgated hereunder.").

47. 563 U.S. at 784.

48. *Id.* at 784. I "assign and do[] hereby assign." *Id.* at 781.

49. *Id.* at 784. In reaching its decision, the Court of Appeals reasoned that the BDA did not "automatically void" inventors' rights in federally funded inventions. *Id.* Therefore, the BDA did not destroy Cetus's patent rights acquired from Holodniy. Accordingly, Stanford lacked standing to sue Roche because the BDA did not void Roche's ownership of the patents. *Id.*

50. *Id.* at 784-93.

51. *Id.* The BDA applied because federal funds from the National Institute of Health were used to finance the research. *Id.*

52. *Id.* at 782. The Court stated specifically that Stanford properly "disclosed the invention, conferred on the Government a nonexclusive, nontransferable, paid-up license to use the patented procedure, and formally notified NIH that it elected to retain title to the invention." *Id.*

53. *Id.* at 786; *Dubilier*, 289 U.S. at 187 ("A patent is property and title to it can pass only by assignment.").

had the right to patent their own inventions and could assign rights to their inventions, employers/contractors have no rights to an invention that the employee alone conceived.⁵⁴ For an employer to retain such rights, the inventor must specifically assign those rights to the employer.⁵⁵ Reinforcing this decision was the Court's conclusion that the BDA did not grant sole title of federally funded inventions to contractors.⁵⁶ The Court recognized that universities regularly enter into assignment agreements with their employees as a precondition to employment.⁵⁷ Therefore, these assignment agreements would preempt the BDA and would effectively transfer rights to the contractor or subsequently, the government.⁵⁸ As illustrated by *Stanford v. Roche*, universities and private companies were now properly positioned to mutually benefit from federal funding.

C. Private Industry on Campus

This section examines how biotechnology companies and universities are particularly situated to mutually benefit from research arrangements and outlines how three types of university employee assignment agreements govern the intellectual property rights of

54. *Roche*, 563 U.S. at 786 (quoting *Dubilier*, 289 U.S. at 189). See Parker Tresemer, *Renewing the Bayh-Dole Act as a Default Rule in the Wake of Stanford v. Roche*, 6 J. LEGAL TECH. RISK MGMT. 173 (2012), for an in depth analysis of the legislative intent behind the BDA and its juxtaposition with the *Roche* decision.

55. *Roche*, 563 U.S. at 786 (citing *Dubilier*, 289 U.S. at 187).

56. *Id.* at 2198–99. The Court reasoned that “[i]t would be noteworthy enough for Congress to” displace the foundational precepts of patent law “and deprive inventors of rights in their own inventions.” *Id.* at 792. But if Congress had intended the BDA to be “such a sea change” in inventor rights, “it would have said so clearly” *Id.* The Court remarked that the BDA does not expressly grant title to contractors or anyone else, nor does it explicitly withhold from inventors their basic interest in federally funded inventions. *Id.* at 787. Inventions of the contractor include only those actually owned by the federal contractor. *Id.* at 789. Because the BDA's provision allowing contractors to “elect to retain title to any subject invention” fails to vest sole title in federal contractors, without an explicit assignment transferring an employee-inventor's rights to an employer-contractor, the contractor never has title. *Id.* at 790–91 (quoting 35 U.S.C. §§ 201(e), 202(a)). The Court reasoned that the BDA only operates when an invention already belongs to the contractor and that the BDA's use of the word “retain” underscored this point. *Id.* at 789.

57. *Id.* at 793.

58. *Id.* The Court asserted that an effective assignment agreement uses the “do hereby assign” language from the Cetus agreement, not Stanford's “agree to assign” language. *Id.* at 792–93.

researchers engaged in these cooperative public-private research arrangements. This section also identifies recent distributions of both federal and private research funds and outlines National Institute of Health (NIH) procedures concerning the transfer of federal research funds between universities following a change in the researcher's employer.

1. Biotechnology's Special Relationship with Universities

Private companies specializing in biotechnology and life sciences often benefit from relationships with universities.⁵⁹ Biotechnology is one field that originated at universities.⁶⁰ Biotechnology's intrinsically scientific mode of inquiry resembles the academic nature of universities more so than semiconductor or computer industries, which tend to be more commercial and less motivated by public health concerns.⁶¹ Universities often employ experts in the field.⁶² Due to the highly regulated nature of the industry,⁶³ biotechnology companies frequently partner with universities in order to satisfy their basic research needs.⁶⁴ Likewise, universities benefit from partnerships with private industry by "tapping a new source of

59. See OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, COMMERCIAL BIOTECHNOLOGY: AN INTERNATIONAL ANALYSIS 411, 531 (1984).

60. See DALY, *supra* note 3, at 51 ("Biotechnology emerged, . . . as a direct result of technology transfer from the universities which originally were the only places where the expertise existed.").

61. See David E. Korn, *Patent and Trade Secret Protection in University-Industry Research Relationships in Biotechnology*, 24 HARV. J. ON LEGIS. 191, 195-97 (1987).

62. *University/Industry Cooperation in Biotechnology: Hearings Before the Subcommittee on Investigations and Oversight and the Subcommittee on Science, Research and Technology of the House Committee on Science and Technology*, 97th Cong. 1, 90 (1982) (statement of Rep. Albert Gore, Jr., Chairman of the Subcomm. on Investigations and Oversight of the H. Comm. on Sci. & Tech.).

63. Thomas H. Kramer, Note, *Proposed Legislative Solutions to the Non-Practicing Entity Patent Assertion Problem: The Risks for Biotechnology and Pharmaceuticals*, 39 DEL. J. CORP. L. 467, 490 (2014); e.g., Guidelines for Research Involving Recombinant DNA Molecules, 51 Fed. Reg. 16958-01 (proposed May 7, 1986).

64. See Vertinsky *supra* note 3, at 1957; DALY *supra* note 3, at 42 ("[U]niversities cannot usually afford the very expensive development of biotechnology inventions."). "By sponsoring biotechnological research in a university laboratory, a company can obtain access to the work of the best people in the field, from Nobel laureates to talented graduate students." Korn, *supra* note 61, at 199-20. The private "sponsor also gains a potential recruiting source and the opportunity to train its own staff with some of the best researchers in the field." Korn, *supra* note 61, at 200.

funding, improving the quality of applied science, and facilitating technology transfer to industry[,]” all of which help boost the academic reputation of the university.⁶⁵ To maximize monetary gain and minimize potential intellectual property loss deriving from partnerships with private industry, universities retain rights to their employee inventions by way of assignment agreements.

2. University Assignment Agreements

Due to the development of the BDA, major research universities have frequently developed partnerships with private companies.⁶⁶ Universities protect their rights to these potentially lucrative inventions by way of assignment agreements with researchers and faculty.⁶⁷ In response, universities created Technology Licensing Offices to manage these assignment agreements, ensure regulatory compliance, and facilitate technology transfers between the university and private partners.⁶⁸ Universities generally structure their assignment agreements to fit one of three different approaches: the Resource-Provider approach,⁶⁹ the Maximalist approach,⁷⁰ and the

65. Korn, *supra* note 61, at 201 (“[r]esearchers with industrial support are more productive, having higher publication rates and creating more patent applications” (citing Blumenthal et al., *University-Industry Research Relationships in Biotechnology: Implications for the University*, 232 *SCIENCE* 1361, 1363 (1986)). “More importantly, cooperation brings together scientists who otherwise would be prevented from working together,” which can further clarify or enhance “the research directions and emphasis of the university scientist.” Korn, *supra* note 61, at 201.

66. See generally *supra* notes 64–65 and accompanying text.

67. See *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 187 (1933); *supra* notes 16–20 and accompanying text.

68. See Vertinsky *supra* note 3, at 1967.

69. Chew, *supra* note 17, at 276. The “resource-provider” approach rooted in the university’s contribution to the invention’s development. *Id.* at 276–77. In this approach, “universities claim ownership of faculty-generated research and inventions only if faculty have made significant use of university resources.” *Id.* at 276. See, e.g., MASSACHUSETTS INSTITUTE OF TECHNOLOGY, GUIDE TO THE OWNERSHIP, DISTRIBUTION AND COMMERCIAL DEVELOPMENT OF M.I.T. TECHNOLOGY 1 (2014) (“MIT owns Intellectual Property made or created by MIT faculty, students, staff or others participating in research pursuant to a sponsored research agreement to which MIT is a party . . . ownership of Intellectual Property developed by faculty . . . participating in MIT programs, including visitors, with the significant use of funds or facilities administered by MIT will vest with MIT”).

70. The “maximalist” approach is generally the most common method found in assignment agreements and it maximizes the university’s rights to employee inventions. Chew, *supra* note 17, at 277–78. See, e.g., J. H. Reichman, *Computer Programs as Applied Scientific*

Supra-Maximalist approach.⁷¹ In addition to private funds, federal funds are also available for universities.

3. Federal Funding and the Federal Grant Process

For the fiscal years of 2015 through 2016, the government estimates that federal funding of non-defense-related research and development will be \$66.6 billion and \$70.3 billion, respectively.⁷² Within these figures, the NIH will receive an estimated \$29 billion.⁷³ A large portion of these funds is distributed as federal grants to fund university research.⁷⁴

Know-How: Implications of Copyright Protection for Commercialized University Research, 42 VAND. L. REV. 639 (1989) (describing issues and problems regarding computer software). “[T]he university claim[s] ownership to two classes of inventions: all those resulting from: (1) the course of the faculty’s employment, and (2) the faculty’s use of university’s resources.” Chew, *supra* note 17, at 277–78. See, for example, the Yale University patent policy which states that:

An invention made by a faculty member in the course of a paid consulting engagement for a company may be assigned to the company only if it is unrelated to the activities for which the faculty member is employed by Yale and it was not made or conceived under circumstances involving University facilities or personnel. . . . It will be considered not to have involved the use of University facilities if no University facilities or resources . . . no University-administered funds, and no University personnel other than the faculty member himself or herself, are involved in the conception or reduction to practice of the invention.

YALE UNIVERSITY, YALE UNIVERSITY PATENT POLICY (2014).

71. “The ‘supra-maximalist’ approach provides that the university claims ownership of inventions and resulting patent rights from all faculty activities, including those developed outside the scope of employment.” Chew, *supra* note 17, at 280. For example, the University of California has an Oath of Allegiance, Patent Policy, and Acknowledgement that conforms to this approach:

I acknowledge my obligation to assign, and do hereby assign, inventions and patents that I conceive or develop 1) within the course and scope of my University employment . . . 2) during the course of my utilization of any University research facilities, or 3) through any connection with my use of gift, grant, or contract research funds received through the University.

UNIVERSITY OF CALIFORNIA, UNIVERSITY OF CALIFORNIA STATE OATH OF ALLEGIANCE, PATENT POLICY, AND ACKNOWLEDGMENT (revised ed. 1997).

72. *Historical Trends in Federal R&D*, AM. ASS’N FOR ADVANCEMENT SCI., DEF., NONDEFENSE, & TOTAL, <http://www.aaas.org/page/historical-trends-federal-rd> (last updated June, 2016).

73. *Id.*

74. For the fiscal year 2015, 83% of NIH funds totaling approximately \$24.96 billion was distributed to extramural research programs. From Tabular Data, *President’s Budget Request*, at

When a university seeks federal funding, they must comply with the BDA and the regulations of the administrative organization, which grants the federal funds (generally the Public Health Service distributing funds to its constituent organizations).⁷⁵ Government agencies have created extensive policies addressing conflicts of interest between researchers employed at universities and their relationships with private companies.⁷⁶ Moreover, the NIH has created policies addressing situations when researchers want to move to another institution.⁷⁷ Should a university researcher seek to move to a different institution and transfer their federally funded program, NIH policy requires that the researcher notify the NIH and seek their approval to transfer the grant of federal funds because the employee/researcher's previous employer still has the right to the federal grant.⁷⁸ In addition to federal funding, private funding is also available for university research.

4. Funding from Private Industry

The role of private industry in funding university research and development in science has grown considerably in recent years.⁷⁹ In 2013, private industry spent \$3.5 billion in university research and development.⁸⁰ Although government funding remains the major

3, 18, 22, [http://officeofbudget.od.nih.gov/pdfs/FY16/Overview%20\(Volume%20I\).pdf](http://officeofbudget.od.nih.gov/pdfs/FY16/Overview%20(Volume%20I).pdf). Johns Hopkins University, the University of California San Francisco, the University of Michigan, and the University of Pennsylvania received approximately \$584.7 million, \$560.4 million, \$453.4 million, and \$453.4 million, respectively in NIH research funding in 2015. Research Portfolio Online Reporting Tools, *NIH Awards by Location & Organization*, U.S. DEP'T OF HEALTH & HUM. SERVS., <https://report.nih.gov/award/index.cfm> (last updated Jan. 9, 2017).

75. Claire Turcotte Maatz, Comment, *University Physician-Researcher Conflicts of Interest: The Inadequacy of Current Controls and Proposed Reform*, 7 HIGH TECH. L. J. 137, 167 n.169 (1991/92).

76. See 42 C.F.R. § 50.604 ("Each institution shall: (a) Maintain an up-to-date, written, enforced policy on financial conflicts of interest that complies with this subpart").

77. National Institute of Health, *Thinking of Moving: A Guide for Transferring an NIH Grant to a New Institution* (Jan. 13, 2010), http://www.niams.nih.gov/funding/Policies_and_Guidelines/transfer_institution.pdf.

78. *Id.* ("The grant belongs to the grantee institution and they have the right to either relinquish it or to keep it and name a new PI.")

79. National Science Foundation, *Higher Education R&D Expenditures, by Source of Funds and R&D Field: FYs 1953–2013*, http://ncesdata.nsf.gov/herd/2013/html/HERD2013_DST_01.html.

80. *Id.*

source of funding for universities, the decline in federal funding over the past decade has resulted in universities looking to private industry to make up the difference.⁸¹

D. The Regents of the University of California v. Aisen

In 2015, the Regents of the University of California (Regents) commenced a lawsuit in San Diego Superior Court against Paul Aisen, a prominent Alzheimer's researcher and former director of the Alzheimer's Disease Cooperative Study (ADCS) based at the University of California San Diego (UCSD), other formerly affiliated researchers, and their new employer, the University of Southern California (USC).⁸²

ADCS is a research program designed to speed up access to Alzheimer's treatments for patients.⁸³ The NIH, pharmaceutical companies, and private donors fund the ADCS.⁸⁴ In 2013, NIH announced that the ADCS received a five-year, \$55 million federal grant.⁸⁵ Total funding of the ADCS was nearly \$100 million.⁸⁶ Aisen resigned from UCSD and the ADCS program on June 21, 2015 and was subsequently hired by USC to lead its new research center in San Diego.⁸⁷ UCSD did not allow Aisen to transfer the ADCS grant money or retain access to the data.⁸⁸ Following Aisen's departure

81. Art Iahnke, *Who Picks up the Tab for Science?*, BU TODAY (Apr. 26, 2015), <http://www.bu.edu/today/2015/funding-for-scientific-research/>.

[A]t Harvard, university data show a clear shift toward corporate and foundation funding. There, 75 percent of research is paid for by the government, corporate research funding has tripled, to \$41 million, from 2006 to 2013, and foundation support has increased 50 percent, to \$115 million. Harvard is now helping researchers set up meetings with big donors.

Id.

82. Compl., *Regents of the Univ. of Cal. v. Aisen*, No. 37-2015-00022082 (San Diego Super. Ct. July 2, 2015).

83. *USC Siphons*, *supra* note 2.

84. Bruce V. Bigelow, *USC Makes Federal Case Out of Dispute Over Alzheimer's Study*, XCONOMY (Aug. 19, 2015), <http://www.xconomy.com/san-diego/2015/08/19/usc-makes-federal-case-out-of-dispute-over-alzheimers-study/>.

85. *Id.*

86. *Id.*

87. *See* Compl. for Money Damages and Equitable Relief at 7, *Regents of the Univ. of Cal. v. Aisen*, No. 37-2015-00022082 (San Diego Super. Ct. July 2, 2015).

88. *Id.* at 9–10.

from UCSD and ADCS, UCSD made a failed attempt to access the ADCS data, which was secured on a third party server.⁸⁹ According to the third party server, the account was no longer “owned” by UCSD.⁹⁰ According to the NIH representatives, UCSD continued to hold the ADCS grant and custody of the data.⁹¹

The Regents brought seven causes of action including breach of fiduciary duty, breach of duty of loyalty by employee, interference with contract, interference with prospective economic advantage, conversion, commission of computer crimes, and civil conspiracy against Aisen.⁹² The court granted UCSD’s request for a preliminary injunction to preserve UCSD’s control over the Alzheimer’s research data pending the results of the litigation.⁹³ Following this preliminary injunction, USC secured eight of the ten main ADCS contracts, including pharmaceutical giant Eli Lilly’s A4 clinical trial—worth an estimated \$76 million—after convincing donors/sponsors that USC was better suited for managing the clinical trials of experimental drugs.⁹⁴ Since this injunction, USC successfully removed the action to federal court by alleging federal question jurisdiction regarding the copyright ownership of the database featured in the Regents’ complaint.⁹⁵

89. *Id.*

90. *Id.* at 10.

91. *Id.* at 9.

92. *Id.* Aisen and USC countersued alleging violation of the California Constitution, violation of civil rights pursuant to 42 U.S.C. § 1983, defamation, tortious interference with existing patient relations, tortious interference with contract, and tortious interference with prospective economic advantage. Cross-cl. of Defs. Aisen & Univ. of S. Cal., at 1, Regents of the Univ. of Cal. v. Aisen, No. 37-2015-00022082 (San Diego Super. Ct. July 31, 2015).

93. Preliminary Inj. & Appointment of Special Master at 1, Regents of the Univ. of Cal. v. Aisen, No. 37-2015-00022082 (San Diego Super. Ct. Aug. 4, 2015).

94. *USC Siphons*, *supra* note 2; Bradley J. Fikes & Gary Robbins, *Lilly Yanks Millions from UCSD for Alzheimer's Study*, SAN DIEGO UNION-TRIB. (Aug. 4, 2015), <http://www.sandiegouniontribune.com/news/2015/aug/04/UCSD-Lilly-grants/>.

95. Regents of the Univ. of Cal. v. Aisen, 143 F. Supp. 3d 1055, 1060 (S.D. Cal. 2015).

II. ANALYSIS/PROPOSAL

*A. Analysis*1. *United States v. Dobilier* and *Stanford v. Roche*

Dobilier provides the default rule determining ownership of intellectual property absent a valid employment contract controlling the issue.⁹⁶ Ownership turns on whether or not the employee is hired to make a specific invention.⁹⁷ If the employee is employed in a general field, produces an invention, and the employee obtains a patent for this invention, then the employee retains ownership.⁹⁸ The default rule established the general notion that an employee hired to work in a general field has ownership of his/her work product if they obtain a patent or copyright on that discovery.⁹⁹ Employment agreements that assign an employee's property rights to the employer serve as an exception to the rule.¹⁰⁰

Relying on principles from *Dobilier*, the Supreme Court correctly determined that the BDA governed the relationship between Stanford University and the NIH because this relationship was federally funded.¹⁰¹ Holodniy's research agreement with Cetus and his employment agreement with Stanford University contained language assigning intellectual property rights.¹⁰² In reaching its holding in favor of Roche, the Court correctly interpreted the language of the Holodniy-Stanford employment agreement as an insufficient promise to assign as opposed to an actual assignment of ownership.¹⁰³ Most importantly, this decision laid out the framework for a sufficient assignment agreement and further reinforced *Dobilier* notions that,

96. *Dobilier*, 289 U.S. at 187.

97. *Id.* (noting that if a government employee hired to invent a specific invention succeeds, then the ownership rights to that specific invention must be assigned to the employer).

98. *Id.*

99. *Id.*

100. *Id.* ("A patent is property and title to it can pass only by assignment.")

101. *Bd. of Trs. of Leland Stanford Junior Univ. v. Roche Molecular Sys. Inc.*, 563 U.S. 776, 782 (2011).

102. *Id.* at 782–84.

103. *Id.* at 787–88.

barring an effective assignment agreement, inventors retain title to their federally funded inventions.¹⁰⁴ As illustrated in this case, a public-private partnership between Stanford and Roche resulted in patent commercialization as intended in the BDA.

2. The BDA and the Growth of Private Industry on Campus

The main purpose of the BDA is to encourage collaboration between the federal government, nonprofit institutions, and the private sector in order to increase the number of commercialized patents available to the public.¹⁰⁵ While the BDA is considered a rousing success,¹⁰⁶ it has also unintentionally incentivized cutthroat competition in certain fields that demand steadfast cooperation, namely the health sciences and biotechnology.

Some scholars argue that a strong focus on research topics that are likely to generate patentable inventions is contrary to the central mission of academia, which is to conduct basic research to ultimately lay the foundation for future advanced research.¹⁰⁷ These scholars

104. *Id.* at 793.

105. The BDA states the following policy and objective:

[T]o use the patent system to promote the utilization of inventions arising from federally supported research or development; to encourage maximum participation of small business firms in federally supported research and development efforts; to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise without unduly encumbering future research and discovery; to promote the commercialization and public availability of inventions made in the United States by United States industry and labor; to ensure that the Government obtains sufficient rights in federally supported inventions to meet the needs of the Government and protect the public against nonuse or unreasonable use of inventions; and to minimize the costs of administering policies in this area.

35 U.S.C. §200 (2006).

106. *Innovation's Golden Goose*, ECONOMIST (Dec. 12, 2002), <http://www.economist.com/node/1476653>. *Bayh-Dole: 30 Years of Driven Innovation*, MY DESIRING-MACHINES (Jan. 16, 2013), <http://mydesiringmachines.wordpress.com/2013/01/16/bayh-dole-30-years-of-driven-innovation/>.

107. Robert M. Yeh, *The Public Paid for the Invention: Who Owns It?*, 27 BERKELEY TECH. L.J. 453, 466 (2012). They argue that:

[T]he goal of basic research is not necessarily to endow the public with a new patent on a specific invention, or for the government to generate some nominal royalties from out-licensing a specific invention and offset the burden of supporting basic research in

argue that the main purpose of publicly funded research is to increase overall long term social welfare.¹⁰⁸ These long-term benefits arise from a collective broadening of scientific inquiry.¹⁰⁹ Therefore, an invention, patent, or copyright is merely one of many steps necessary for any scientific breakthrough to benefit the public.¹¹⁰

Basic scientific research serves as the foundation of innovative applied research and development.¹¹¹ In comparison to the goal of the BDA,¹¹² federally funded basic research seeks to advance scientific knowledge and train new generations of scientists and engineers.¹¹³ As it stands now, private industry is generally uninterested in funding basic scientific research.¹¹⁴ Likewise, within the linear model of innovation, universities are “expected to forge relationships with industry as a way of moving public research results into the hands of private developers[,]” instead of providing the commercially viable innovations freely to the public.¹¹⁵ Universities often take ownership of commercially viable intellectual property from employee-inventors, patent or copyright them, and then market them to private entities for further development.¹¹⁶

the first place. Nor is the goal of publicly funded research to give contractors a new lucrative revenue stream with the licensing of blockbuster patents.

Id.

108. *Id.*

109. *Id.*

110. *Id.* at 467.

111. Carol Mimura, *Nuance Management of IP Rights: Shaping Industry-University Relationships to Promote Social Impact*, WORKING WITHIN THE BOUNDARIES OF INTELLECTUAL PROPERTY 269, 269–73 (Rochelle C. Dreyfuss et al. eds., 2010).

112. *See generally* 95 CONG. REC. S15,034 (daily ed. Sept. 13, 1978) (statement of Sen. Robert Dole). Congress passed the BDA to incentivize researchers and private industry professionals to commercialize federally funded technologies and spur innovation. *Id.*

113. *See, e.g.*, Congress's stated various purposes for the National Science Foundation (NSF) in the National Science Foundation Act of 1950, 42 U.S.C. §1862 (2002).

114. *See Vertinsky supra* note 3, at 1956–57.

115. Vertinsky *supra* note 3, at 1960; *e.g.*, Kenneth Sutherland Dueker, *Biobusiness on Campus: Commercialization of University-Developed Biomedical Technologies*, 52 FOOD & DRUG L.J. 453 (1997) (“the biggest source of licensing royalties at both Stanford and the University of California arise from the famous Cohen-Boyer patents”).

116. *See, e.g.*, Vertinsky, *supra* note 3, at 1957–68 (describing a linear model of innovation); Mimura, *supra* note 111, at 269–71. (“Universities, however, perform early-stage research and serve to accelerate innovation; they are lead-off runners in a multi-party relay race to commercial endpoints . . . Cutting edge academic research laboratories typically create early stage, ‘embryonic’ technologies that are far from being actual commercial products.”).

Over the past few years, federal funding of basic scientific research has declined.¹¹⁷ In order to adequately fund both basic and innovative research, universities have proactively forged relationships with wealthy benefactors and private companies.¹¹⁸ For example, institutions such as Harvard University, Stanford University, and the University of Southern California have combined to raise over \$2.8 billion in 2014.¹¹⁹

These newfound relationships with private benefactors and companies appear to be a win-win situation for universities: they acquire more funding for basic and innovative scientific research, which could eventually lead to scientific breakthroughs that have substantial commercial value. The goal of the university is the pursuit of knowledge that will benefit its students, faculty, and more importantly, the public welfare.¹²⁰ Exploiting lucrative patent and copyright royalties is merely a secondary goal of universities.¹²¹ In comparison, the primary goal of private companies who enter into partnerships with universities is to obtain patents and copyrights that can be marketed and sold to the public.¹²² This cooperative

117. Art Jahnke, *Who Picks up the Tab for Science?*, BU TODAY, <http://www.bu.edu/today/2015/funding-for-scientific-research/> (last visited Nov. 10, 2016).

118. See Alvin Powell, *Harvard Kicks Off Fundraising Effort*, HARV. GAZETTE (Sept. 13, 2013), <http://news.harvard.edu/gazette/story/2013/09/harvard-kicks-off-fundraising-effort/>; *Stanford Concludes Transformative Campaign*, STAN. REP. (Feb. 8, 2012), <http://news.stanford.edu/news/2012/february/stanford-challenge-concludes-020812.html>; *The Campaign for the University of Southern California*, CAMPAIGN, <https://campaign.usc.edu/> (last visited Nov. 10, 2016).

119. Kaitlin Mulhere, *Deep-Pocket Donors*, INSIDE HIGHER ED., <https://www.insidehighered.com/news/2015/01/28/2014-record-year-higher-ed-donations> (last visited Nov. 10, 2016).

Charitable donations to colleges reached an all-time high of nearly \$38 billion last year, according to an annual survey released today by the Council for Aid to Education. Donors increased the amount they gave colleges in 2014 by 10.8 percent, up from \$33.8 billion in 2013, which was the previous historic high. Without adjusting for inflation, the growth between 2013 and 2014 was the largest since 2000. Gifts from all sources, including alumni, corporations and foundations, were up in 2014, although each source's proportion of the total was roughly the same as it was in 2013.

Id.

120. See Yeh, *supra* note 107, at 466.

121. *Id.*

122. See Hearing, *supra* note 24, at 13.

partnership between universities and private industry is exactly what the BDA was intended to facilitate.¹²³

The BDA indirectly and unpredictably disincentivized innovative university research among smaller institutions because they do not have the resources to develop and retain their faculty driven research programs. Universities and private companies are not only competing against other entities within their respective fields, but are competing against each other for funding, prestige, and commercial innovation.¹²⁴ Though competition is generally considered an incentive to research, unfettered competition among universities for funding and prestige has led to particularized instances that appear to disincentivize university innovative research.¹²⁵ This nuanced disincentive flows from a widely held, yet deeply flawed, university employment practice.

It is a general practice among universities to allow other universities to recruit and hire their researchers/faculty.¹²⁶ Oftentimes these researchers/faculty bring with them any private funding they may be receiving that facilitates their research.¹²⁷ Larger and more established research universities generally possess greater prestige and fundraising ability.¹²⁸ This allows well-funded research universities to raid faculty/researchers from smaller research

123. 35 U.S.C. § 200 (2000). (stating that the BDA was intended “to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise without unduly encumbering future research and discovery”).

124. See Mulhere, *supra* note 119; Larry Gordon, *In Quest to Raise \$6 Billion, USC Runs a Massive Fundraising Machine*, L.A. TIMES (June 20, 2015), <http://www.latimes.com/local/education/la-me-usc-fundraising-20150621-story.html>.

125. *E.g.*, *Aisen*, 143 F. Supp. 3d 1055 (Although this disincentive is not addressed by the court, this case presents a fact pattern where a university is not compensated for losing valuable research personnel and their programs).

126. See generally Bradley J. Fikes, *UCSD Sues USC, Noted Alzheimer's Researcher*, SAN DIEGO UNION-TRIB. (July 2, 2015), <http://www.sandiegouniontribune.com/news/2015/jul/02/ucsd-sues-usc-aisen/>.

127. See *USC Siphons*, *supra* note 2. Public funding is governed by the particular federal agency that distributes the money. As such, federal agencies control whether or not a university professor/researcher can bring public funding to another institution. See *supra* note 77 and accompanying text.

128. See National Science Foundation, *Rankings by Total R&D Expenditures*, NAT'L SCI. FOUND., <https://ncesdata.nsf.gov/profiles/site?method=rankingBySource&ds=herd> (last visited Nov. 15, 2016).

universities with impunity. In exchange for an increase in salary and other intangible benefits, well-funded research universities obtain innovative researchers as well as their projects, and occasionally, their private sources of funding.¹²⁹ On the other hand, small research universities who have their faculty and their projects raided often receive nothing in return for the initial development of faculty research.¹³⁰ This has led to a consolidation of innovative research among well-financed research universities.¹³¹ Most importantly, this disincentivizes smaller research universities from engaging in innovative scientific research because they could potentially lose crucial faculty researchers, their programs, and their research funding.¹³²

Research universities should be seeking cures and remedies for diseases and other public health problems. While public-private partnerships, facilitated by the BDA, ultimately seek a cure, the ongoing war among research universities for prestige and funding disincentivizes smaller research universities from contributing to a cure.¹³³ As such, there must be an incentive for smaller research universities to enter into competition with well-funded universities so as to pursue innovation.

3. Regents of the University of California v. Aisen

Aisen presented the court with facts indicating that a well-funded university (USC) is raiding another university (UCSD) for its researchers, research programs, and funding. USC is a well-funded research university attempting to acquire UCSD's primary Alzheimer's researchers and the funds associated with their ongoing research.¹³⁴ However, in contrast to the more prestigious university

129. See Fikes, *supra* note 126. See also *USC Siphons*, *supra* note 2.

130. *USC Siphons*, *supra* note 2.

131. See National Science Foundation, *supra* note 128.

132. See, e.g., Compl. for Money Damages and Equitable Relief at 1, Regents of the Univ. of Cal. v. Aisen, No. 37-2015-00022082 (San Diego Super. Ct. July 2, 2015) (indicating that UCSD lost valuable research data and personnel without compensation). Fikes & Robbins, *supra* note 94 and accompanying text (UCSD lost eight of ten ADCS contracts worth an estimated \$76 million).

133. See notes 124–130 and accompanying text.

134. Fikes, *supra* note 126 (“USC encouraged Aisen by granting him generous terms,

acquiring researchers and programs from the less prestigious university, USC is generally considered to be an inferior scientific research university when compared to UCSD.¹³⁵ USC has engaged in a comprehensive fundraising campaign to expand its national brand and bolster its national prestige as a major research university.¹³⁶ USC's acquisition of a large portion of the ADCS represents a major coup in boosting its research pedigree.¹³⁷ While UCSD's ADCS research uses federal funding, a large portion of the research is funded by a partnership with Eli Lilly.¹³⁸ The primary question to be answered by this case is who owns the ownership rights to the data generated from ADCS' ongoing clinical research?¹³⁹ Like *Stanford v. Roche*, this case will likely turn on the validity of Aisen's assignment/employment agreement and whether UCSD or Aisen has a valid copyright to the research database.

B. Proposal

Aisen represents a potentially groundbreaking opportunity for the court to comment on the state of public-private partnerships and the policies that incentivize detrimental competition among universities supposedly seeking to promote the public welfare through scientific

including a \$500,000 annual salary guaranteed through 2020 . . . USC is famous for its prowess in fund-raising. It has raised more than \$4 billion in its \$6 billion capital campaign.”)

135. UCSD received \$390 million in National Institutes of Health funding last year, compared with USC's \$180 million. Larry Gordon, Gary Robbins & Bradley J. Fikes, *What's Behind UCSD, USC Court Battle?*, SAN DIEGO UNION-TRIB. (July 19, 2015), <http://www.sandiegouniontribune.com/news/2015/jul/19/usc-ucsd-alzheimers-paul-aisen-court-legal/>. US News & World Report ranked the UC San Diego medical school seventeenth in the nation for research while USC is in a three-way tie for thirty-first. *Id.*

136. Gordon, *supra* note 124. “The three-day, three-city Trojan sprint through Texas was underway, one that could help USC raise the \$1.8 billion it needs to reach its ambitious \$6-billion campaign goal for scholarships, faculty hiring and building by the end of 2018.” *Id.*

137. *USC Siphons*, *supra* note 2 (“[ADCS] is one of the nation's most significant and high-profile clinical research programs for the disease.”).

138. Fikes & Robbins, *supra* note 94 (“Lilly said that it would give UC San Diego up to \$76 million for the A4 study”). Eli Lilly is a global pharmaceutical corporation headquartered in Indianapolis, Indiana. ELI LILLY, <https://www.lilly.com/key-facts-1> (last visited Dec. 16, 2016).

139. *Aisen*, 143 F. Supp. 3d at 1060 (“Plaintiff's claims for relief and its formal arguments allege its own ownership of data and software. The accuracy of the claims necessitate resort to federal copyright law and perhaps federal regulation of National Institute of Health research contracts.”).

innovation. Even though a remarkable opportunity was presented to the court, I doubt that the court would go so far as to hold for UCSD solely on public policy grounds since the industry norm allows researchers to switch universities with impunity and Aisen's Supra-Maximalist assignment agreement with UCSD. Looking forward however, I propose two potential solutions that small research universities may take advantage of to protect their research interests: creating and enforcing binding assignment agreements and stipulating liquidated damages provisions in the employment contract.

1. Create and Enforce a Binding Assignment Agreement

In order to best protect its long-term research programs, I recommend that smaller research universities institute *and enforce* mandatory employer/researcher assignment agreements. The language for this assignment agreement is set forth in the *Roche* decision.¹⁴⁰ The assignment agreement should contain the following language: "I assign and do hereby assign."¹⁴¹ Additionally, universities should strongly consider implementing the Maximalist approach to assignment provisions.¹⁴² The Maximalist approach provides stronger protection than the resource provider approach without the severity of the Supra-Maximalist approach,¹⁴³ which discourages potential researchers from signing the assignment agreement in the first place.

140. *Roche*, 131 S. Ct. at 2191.

141. *See, e.g., id.* at 2202 (Breyer, J., dissenting).

142. *See Chew, supra* note 17, at 277–78 (defining the Maximalist approach).

143. *Compare* Yale University, Yale University Patent Policy (2014) ("All inventions made or conceived . . . involving University facilities or personnel are the property of the University. An invention made by a faculty member in the course of a paid consulting engagement for a company may be assigned to the company only if it is unrelated to the activities for which the faculty member is employed by Yale and it was not made or conceived under circumstances involving University facilities or personnel") *with* University of California, University of California State Oath of Allegiance, Patent Policy, and Acknowledgment (revised ed.1997) ("I acknowledge my obligation to assign, and do hereby assign, inventions and patents that I conceive or develop 1) within the course and scope of my University employment while employed by University, 2) during the course of my utilization of any University research facilities, or 3) through any connection with my use of gift, grant, or contract research funds received through the University.").

Moreover, it is insufficient to force an employee to sign an assignment agreement without enforcing it. Because Maximalist assignment agreements are already commonplace among research universities,¹⁴⁴ simply enforcing them would be the easiest solution to this problem. However, this problem cannot be completely solved with an enforced assignment agreement because the university would still lose the faculty member desiring to leave.

2. Stipulate an Adequate Liquidated Damages Provision in the Employment Contract

A liquidated damages provision will be held unenforceable if it is deemed to be a penalty.¹⁴⁵ This determination is guided by principles of contract law.¹⁴⁶ The courts consider two factors when evaluating if a liquidated damages provision constitutes a penalty: the damages must approximate the actual injury suffered by the non-breaching party and the damages must be reasonably uncertain at the time of contracting.¹⁴⁷

A liquidated damages provision would adequately compensate universities whose researchers are lured by other competing entities and would likely be enforceable in court. It would allow the university to retain all intellectual property generated by employees and would also compensate the university for the loss of one of its faculty members. If the liquidated damages provision is not

144. See Chew, *supra* note 17, at 277.

145. *Vanderbilt Univ. v. DiNardo*, 174 F.3d 751 (6th Cir. 1999) (“The term ‘liquidated damages’ refers to an amount determined by the parties to be just compensation for damages should a breach occur. Courts will not enforce such a provision, however, if the stipulated amount constitutes a penalty”).

146. See McCormick, *Damages* §§ 146–157, at 605–06 (1985); The Restatement (Second) of Contracts provides:

Damages for breach by either party may be liquidated in the agreement but only at an amount that is reasonable in light of the anticipated or actual loss caused by the breach and the difficulties of proof of loss. A term fixing unreasonably large liquidated damages is unenforceable on grounds of public policy as a penalty.

Restatement (Second) of Contracts §356 (1981).

147. *DiNardo*, 174 F.3d at 755 (“In Tennessee, a provision will be considered one for liquidated damages, rather than a penalty, if it is reasonable in relation to the anticipated damages for breach, measured prospectively at the time the contract was entered into, and not grossly disproportionate to the actual damages”).

considered a penalty, it would likely be considered enforceable because it is factually analogous to liquidated damages provisions featured in collegiate coaching contracts.¹⁴⁸ For example, reasoning that the university wanted stability and that the university would suffer damages beyond the cost of hiring a replacement coach, the Sixth Circuit Court of Appeals held that a liquidated damages provision is enforceable.¹⁴⁹ Because researchers bring with them their work and often their sources of funding, this collegiate coaching example is similar to a researcher leaving a university for a competitor.¹⁵⁰ Like a collegiate coach, replacing a researcher can be especially difficult if the researcher is a noted expert in the field and/or they lead a university research program. Researchers also bring with them certain intangible assets such as reputation and expertise that cannot be easily quantified.

One major problem with a liquidated damages provision is quantifying a reasonable estimate of damages for intangible attributes such as stability and reputation. A possible solution to this problem is to calculate the remaining value of the researcher's employment contract and factor in the value of the researcher's projects and funding received. The value of liquidated damages provision should compensate the university for some of the potential losses resulting from the researcher leaving for a competing university. If the competing university really desires that particular researcher then they can buy out the researcher by paying the liquidated damages provision. This provision would serve as a deterrent for competing universities to acquire other researchers but wouldn't be an insurmountable impediment so long as the liquidated damages provision is reasonable and therefore enforceable in court. The university receiving these damages could potentially use this money to hire a substitute researcher.

148. *See generally id.* at 751; *Kent State Univ. v. Ford*, 26 N.E.3d 868, 874 (Ohio App. 11 Dist. 2015).

149. *DiNardo*, 174 F. 3d at 756 (“[T]he parties understood that Vanderbilt university would suffer damage should the coach terminate his contract, and that these actual damages would be difficult to measure”).

150. *See generally Aisen*, 143 F. Supp. 3d 1055.

CONCLUSION

Implementing solutions by way of pre-existing contracts serves as the best and most reasonable method of evening out the playing field among competing research universities. Creating and enforcing assignment agreements allows universities to retain ownership of patents and copyrights that researchers discover while employed.¹⁵¹ This serves as a mild deterrent discouraging competing research universities from raiding each other's faculty researchers for the sole purpose of acquiring valuable patents and copyrights. The stronger deterrent focuses on introducing liquidated damages provisions in researcher employment contracts. Even though this solution presents several issues, they can be remedied by evaluating salary, private and public grant funding, and certain intangibles such as reputation and stability. Liquidated damages allow a university to not only shield itself from possible raiders, it also allows universities to fund suitable replacement researchers that would serve as capable program leaders.

Due to the BDA's goal of fostering cooperation between universities and the private sector to generate commercial patents,¹⁵² business factors such as lucrative patent and copyright royalties have crept into university decision-making,¹⁵³ thus rendering universities significant players in the business of science.¹⁵⁴ Since the enactment of the BDA, the seemingly distinct goals of universities and private sector companies have merged, intertwining both the goals of a cure and allure of massive profits.¹⁵⁵ Though both universities and private companies endeavor to create innovative research, the underlying search for a cure is much more valuable than any potential royalty generated from this innovative research. Each day a university is delayed from beginning innovative research could potentially result in lives lost. Small research institutions need to take full advantage of preexisting contractual remedies to adequately protect themselves from large research universities poaching their valuable researchers, programs, and funding.

151. *See generally* United States v. Dubilier Condenser Corp., 289 U.S. 178 (1933).

152. *See* 35 U.S.C. § 200; *supra* note 105 and accompanying text.

153. *See* Dueker, *supra* note 115 and accompanying text.

154. *See* 35 U.S.C. § 200; *supra* note 105 and accompanying text.

155. *See* Yeh, *supra* note 121 and accompanying text.