

**THE GUIRR *INTERNATIONAL RESEARCH*
COLLABORATIONS PROJECT: TOWARDS A
GREATER UNDERSTANDING OF
INTERNATIONAL COLLABORATION**

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I. INTRODUCTION

International research collaboration and its management lie at the center of a fascinating nexus involving education, research, policy, culture, society, and ethics. *Education* plays a central role not only in producing productive members in society, but also in ensuring the generation of wealth and long-term social stability. *Research*, not only in a general sense but also as a component of colleges and universities, is central to advancing knowledge not only for education but also for wealth generation. Wealth generation is critical for alleviating poverty, which afflicts a large portion of the planet. *Policy* is the framework within which education and research flourish, and policy ultimately accomplishes the economic and social objectives of education and research.² Policy must support education and research, not create unnecessary roadblocks that hinder knowledge and wealth generation. *Culture* is the unique differences that each country and society brings to the international table, and *Society* is the structure that allows various activities, including education and research, to flourish. *Ethics* is a critical component of education and research because ethical and objective research is necessary for public acceptance of such education and research. In order for society to flourish, both education and research need to be conducted in an ethical manner. Research ethics is paramount due to the important role that research plays in creating a knowledge-based, post-industrial economy in the United States and elsewhere.

Why the focus on international research collaborations? Well, the easy answer would be that the world is getting smaller and national boundaries are becoming less important. While that answer is true to a certain extent, in reality the issue is more complex. Here are some additional, more specific reasons:

- (1) Universities, particularly those in the United States and Western Europe, cannot do research all by themselves

² A recent *Wall Street Journal* article discusses the idea that the government of Mainland China considers “research” to be a form of spying; hence the usage of “research” as a way to create “State Secrets” that are not divulged to the outside world. James T. Areddy, *China’s Culture of Secrecy Brands Research as Spying*, WALL ST. J., Dec. 2, 2010, at A1. As the article notes, what the Western World considers simple market research the Chinese Government considers espionage. *Id.* If these ideas represent Chinese policy, then there is a direct collision between Western and Chinese concepts of “research,” and this has significant implications for academic and industrial interactions between Western and Chinese researchers.

anymore.³ They need international partners.

- (2) International collaborations result in synergies and results that are greater than the individual parts.⁴
- (3) The economic situation in many countries today implicitly mandates collaborations across borders that make funding dollars go further than they could individually.
- (4) It is simply more exciting when collaboration involves researchers across national boundaries.
- (5) International collaborations lead to synergistic possibilities that arise from cultural differences and possess a richness that are not necessarily present when done by researchers from a single country.

It can be said, therefore, that increasing collaborations in a knowledge-based international economy is an economic and social imperative. In addition, international research collaborations are an important component in keeping United States research universities healthy. In recognition of concern over the health of United States research universities,⁵ the National Academies, at the behest of Congress, has “convened a blue-ribbon committee to examine these concerns and recommend ways to keep research universities healthy.”⁶ It will be interesting to see where international research collaborations fit into the overall goal of healthy research universities in the United States.

This article addresses international research collaborations, particularly from the perspective of the *International Research Collaborations* project convened by the Government-University-Industry Research Roundtable (GUIRR). GUIRR is a subunit of the National Academies in Washington, D.C.⁷ First, the article begins with a discussion of GUIRR, the sponsor and convener of the project. This active GUIRR project addresses many of the integral components of international research

³ The need to build partnerships in a resource-constrained environment also includes public-private research facility partnerships. For an excellent discussion of this topic, see UNIV. LEADERSHIP COUNCIL, *ESTABLISHING STRATEGIC PUBLIC-PRIVATE RESEARCH FACILITY PARTNERSHIPS* (2010).

⁴ The *Harvard Business Review* published an excellent collection of eight articles addressing the topic of building collaboration across “silos.” Of course, it is often said that academic departments and colleges are “silos” at colleges and universities. While the HBR publication is directed towards private business, it would be desirable to gear it towards academia. HARVARD BUS. REV., *COLLABORATING ACROSS SILOS* (2009).

⁵ John Tyler argues that innovation at universities is occurring at a level significantly below what it is capable of, and that hence the paradigm for innovation must be changed. See John E. Tyler III, *Advancing University Innovation: More Must be Expected—More Must be Done*, 10 MINN. J. L. SCI. & TECH. 143 (2009).

⁶ Jeffrey Mervis, *Progress for a Small Planet*, SCI., July 9, 2010, at 126-27; James Gentile & Sherwood Boehlert, *Nurturing Young Scientists*, SCI., Aug. 20, 2010, at 884.

⁷ For a recent article discussing the successful negotiation of international agreements, see James J. Casey, Jr., *Negotiating Successful International Agreements*, RES. GLOBAL, Oct. 2010, at 18, 18-19.

collaboration, including Intellectual Property, export controls, research ethics and the responsible conduct of research, cultural differences and nuances, and legal issues. Second, because this project is active, this article is essentially a snapshot in time, covering what activities were undertaken in the past, what issues are being covered and debated, and where the project is going in the future. The author, Co-Chair of the project and champion of the Intellectual Property (IP) track, discusses the IP track of the workshop held in Washington, D.C., on July 26-27, 2010. Third, the article concludes with some final observations regarding international research collaborations in general and the GUIRR project in particular.

II. THE GOVERNMENT-UNIVERSITY-INDUSTRY RESEARCH ROUNDTABLE (GUIRR)⁸

The prior section outlined the reasons for international research collaborations, and it is for these and other reasons that the *International Research Collaborations* project (known as the “I-Group”) was approved by the GUIRR in October 2008.⁹ GUIRR was established in 1984 for the following purpose:

[GUIRR was created] in response to the report of the National Commission on Research, which called for an institutionalized forum to facilitate dialogue among the top leaders of government and non-government research organizations. The Roundtable is sponsored by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.¹⁰

⁸ The University of Texas at San Antonio and the Southwest Research Institute (SwRI) are university-industry partners in GUIRR.

⁹ John Carfora, James Casey & Bob Killoren, *GUIRR Gives Green Light to Examine International Research Collaborations*, NCURA MAG., Dec. 2008-Jan. 2009, at 10.

¹⁰ *About Us*, GOV'T-UNIV.-INDUS. RESEARCH ROUNDTABLE, http://sites.nationalacademies.org/PGA/guirr/PGA_044322 (last visited Nov. 19, 2010). The following international-related reports are also available on the National Academies website, <http://www.nap.edu> (last visited Nov. 19, 2010): COMM. ON INT'L COLLABORATIONS IN SOC. AND BEHAVIORAL SCIS. ET AL., INTERNATIONAL COLLABORATIONS IN BEHAVIORAL AND SOCIAL SCIENCES (2008); OFFICE FOR CENT. EUR. AND EURASIA DEV. AND COOPERATION POLICY AND GLOBAL AFFAIRS, SCIENCE AS A GATEWAY TO UNDERSTANDING (Glenn Schweitzer & Yousef Sobouti eds., 2008); COMM. ON ENSURING THE UTIL. AND INTEGRITY OF RESEARCH DATA IN A DIGITAL AGE ET AL., ENSURING THE INTEGRITY, ACCESSIBILITY, AND STEWARDSHIP OF RESEARCH DATA IN THE DIGITAL AGE (2009); COMM. ON SCI., ENG'G, AND PUB. POLICY ET AL., ON BEING A SCIENTIST (3rd ed. 2009); COMM. ON THE USE OF THIRD PARTY TOXICITY RESEARCH WITH HUMAN RESEARCH PARTICIPANTS ET AL., INTENTIONAL HUMAN DOSING STUDIES FOR EPA REGULATORY PURPOSES (2004); COMM. ON THE EXPERIENCES AND CHALLENGES OF SCI. AND ETHICS IN THE U.S. AND IRAN ET AL., THE EXPERIENCES AND CHALLENGES OF SCIENCE AND ETHICS (2003); KATHERINE BOWMAN ET AL., THE 2ND INTERNATIONAL FORUM ON BIOSECURITY (2009); COMM. ON ADVANCES IN TECH. AND THE PREVENTION OF THEIR APPLICATION TO THE NEXT GENERATION BOWWARFARE THREATS ET AL., AN INTERNATIONAL PERSPECTIVE ON ADVANCING TECHNOLOGIES AND STRATEGIES FOR MANAGING DUAL-USE RISKS (2005); COMM. ON INTELLECTUAL PROPERTY RIGHTS IN GENOMIC AND PROTEIN RESEARCH AND INNOVATION ET AL., REAPING THE BENEFITS OF GENOMIC AND PROTEIN RESEARCH (2006); COMM. ON INTELLECTUAL PROPERTY RIGHTS IN THE KNOWLEDGE-BASED ECON. BD. ON SCI., TECH., AND ECON. POLICY ET AL., A

GUIRR's formal mission is stated as follows:

to convene senior-most representatives from government, universities, and industry to define and explore critical issues related to the national and global science and technology agenda that are of shared interest; to frame the next critical question stemming from current debate and analysis; and to incubate activities of on-going value to the stakeholders. This forum will be designed to facilitate candid dialogue among participants, to foster self-implementing activities, and, where appropriate, to carry awareness of consequences to the wider public.¹¹

III. DEVELOPMENT OF THE *INTERNATIONAL RESEARCH COLLABORATIONS* PROJECT

The idea for a GUIRR project on international research collaborations came out of the success of the June 16-17, 2008 meeting entitled, *New Partnerships on a Global Platform*.¹² It was apparent to the participants that GUIRR needed to pursue a specialized project in this project space, and so informal planning was undertaken between June and October of 2008. In October 2008, the GUIRR leadership formally approved, or green lighted, a project on international research collaborations. Over the next few months, many of the members of the informal planning group were recruited; their names and institutional affiliations are noted in Appendix A.¹³ It was not until near the end of 2009, when planning for the July 2010 workshop gained steam, that the National Academies Advisory Committee of Six (the "Committee of Six") was established to create the requirements for the July workshop and to provide oversight of the workshop. The names and affiliations of the Committee of Six are noted in Appendix A.¹⁴ Susan Sauer Sloan, the GUIRR Director, works closely with the Committee of Six and has been critical to the project's success.

PATENT SYSTEM FOR THE 21ST CENTURY (Stephen A. Merrill et al. eds., 2004); COMM. ON SCI., SEC., AND PROSPERITY ET AL., *BEYOND "FORTRESS AMERICA"* (2009); COMM. ON A NEW GOV'T-UNIV. P'SHIP FOR SCI. AND SEC., *SCIENCE AND SECURITY IN A POST 9/11 WORLD* (2007); PAUL F. UHLIR ET AL., *THE SOCIOECONOMIC EFFECTS OF PUBLIC SECTOR INFORMATION ON DIGITAL NETWORKS* (2009); U.S. NAT'L COMM. FOR CODATA ET AL., *OPEN ACCESS AND THE PUBLIC DOMAIN IN DIGITAL DATA AND INFORMATION FOR SCIENCE* (Julie M. Esanu & Paul F. Uhlir eds., 2004).

¹¹ *About Us*, GOV'T-UNIV.-INDUS. RESEARCH ROUNDTABLE, http://sites.nationalacademies.org/PGA/guirr/PGA_044322 (last visited Nov. 19, 2010).

¹² *New Partnerships on a Global Platform*, GOV'T-UNIV.-INDUS. RESEARCH ROUNDTABLE, http://sites.nationalacademies.org/PGA/guirr/PGA_051376 (last visited Nov. 19, 2010).

¹³ See *infra* Appendix A.

¹⁴ *Id.*

IV. I-GROUP PROJECT ACTIVITIES TO DATE

The initial teleconference of the I-Group took place on July 15, 2008, and confirmed both an interest in further examination of the elements of sound international research agreements and the barriers and workarounds presently used to get to sound, international research agreements. In the two plus years since that first conference call, the I-Group has met almost monthly via conference calls to keep the project vibrant and relevant.

In addition to conference calls, several in-person planning meetings were held at the National Academies' Keck Center in Washington, D.C., on August 28, 2008; March 26, 2009; and January 22, 2010.

Publications have been considered a central component of the project. Publications not only report on activities of the group and serve as a form of public relations to the higher education, industry, and government sectors, but also serve to increase the knowledge base in the area of international research collaboration. To date, the following publications have been issued:

- (1) A white paper issued on October 13, 2008.¹⁵
- (2) An article published by the *NCURA Magazine* in December 2008.¹⁶
- (3) Statements of Purpose for the project and the proposed workshop in February 2009.¹⁷
- (4) An article published by *Link*, the newsletter of the European Association of Research Managers and Administrators (EARMA), in 2009.¹⁸

These activities were meant to lay the groundwork for the July 2010 workshop, as well as to follow-on activities, post-workshop. The workshop itself will be considered in the next section.

V. WORKSHOP AT THE NATIONAL ACADEMIES (JULY 26-27, 2010)

The I-Group workshop held at the National Academies on July 26-27, 2010, contained a number of tracks, most of which led to breakout group

¹⁵ GUIRR Ad Hoc Working Group on International Research Collaborations, *White Paper*, (Oct. 13, 2008), http://sites.nationalacademies.org/PGA/guirr/PGA_050827 (follow "White Paper prepared by the working group" hyperlink).

¹⁶ Carfora, Casey & Killoren, *supra* note 9, at 10-11.

¹⁷ GUIRR International Research Collaborations Working Group, *Statements of Purpose* (Feb. 2009), www.nationalacademies.org/pga/guirr/PGA_050827 (follow "Statements of Purpose" hyperlink).

¹⁸ James Casey, Robert Killoren & John Carfora, *U.S. Research Round-table Examines Ways to Strengthen International Research Collaboration*, EARMA LINK, Apr. 17, 2009, at 10, 11. *See generally* EARMA, <http://www.earma.org> (last visited Nov. 19, 2010) (providing a general overview of the European Association of Managers and Administrators "EARMA").

sessions on Day Two.¹⁹ Appendix B contains the final agenda for the workshop; here are the summary descriptions for each track:

A. Creating an Environment for Productive International Collaboration

The role of international collaborations in advancing knowledge and offering economic opportunities worldwide is growing, thanks to factors such as access to the internet; globalization; and greater mobility of information, ideas, and people. Though international research collaborations also are growing (as measured, for example, by multinational co-authorship on publications and shared funding for international research projects), there are bottlenecks and frictions that can pose impediments to meaningful and successful international collaborations. This track will look broadly at trends and issues that pertain to fostering productive international collaboration from the point of view of governments, universities, and industry.²⁰

B. Cultural Differences and Nuances

Quite often cross-cultural nuances and culture-centric perspectives—grounded in one’s experience or merely assumed—often cloud conversations between faculty researchers and research administrators when they are negotiating the shared development of meaningful international research agreements. In this session we will hear from a number of experts on cross-cultural communications, understanding, and collaborations.²¹

C. Ethics

The ethics panel stands between the culture panel and the research integrity panel in the sense that ethics are informed by culture and govern behavioral choices in the conduct of research. This panel will explore issues related to the ethics of safeguarding privacy/ security/ and confidentiality; bioethical issues related to human subjects research as well as other activities with bioethical implications, all from both a domestic [United States] and a global perspective.²²

¹⁹ *Agenda*, GOV’T-UNIV.-INDUS. RESEARCH ROUNDTABLE, http://sites.nationalacademies.org/PGA/guirr/PGA_058064 (last visited Nov. 19, 2010).

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

D. Research Integrity and the Responsible Conduct of Research

The research integrity panel continues the ethics discussion by focusing on standards and practices that promote responsible data collection and appropriate authorship byline decisions. The panel will explore issues related to current RCR training for data integrity and authorship as well as consider the impact that different international PhD educational standards can have on data integrity. The panel will conclude with a discussion by an international team who will describe their experiences in negotiating authorship agreements and in building capacity to assure data integrity.²³

E. Risk Management

Risk management is a continuous process designed to proactively identify and mitigate risks to help promote the achievement of the organization's objectives, strategy, and mission. Risk management also drives accountability and integrity of the organization's work and helps ensure individuals within the organization see it as their responsibility to reduce risk as part of their daily jobs. The panel will explore specific issues relating to risk management in the international setting.²⁴

F. Intellectual Property

Intellectual Property (IP) is a central issue in international research collaborations. What is the balance between the facilitation of research and the protection of IP? The members of the IP track will discuss and outline the major issues, challenges, and successes of IP on the international level. This will include such topics as background intellectual property (BIP), the connection between IP and export control, the management of IP at the university, industry, and governmental levels, and emerging issues in the coming years (such as managing IP given the increasing transportation of large data sets and research across national borders). The IP team will pay particular attention to practices and models of IP used in individual countries, for inclusion in project deliverables.²⁵

²³ *Id.*

²⁴ *Id.*

²⁵ *Id.*

G. Export Controls

Export control regulation presents special challenges when working with international collaborators and when conducting research overseas. Researchers who are used to open academic environments are often surprised to learn that certain areas of collaboration, especially in science and engineering, may be more difficult with certain international partners. In addition, trade embargos and sanctions, reflecting foreign policy concerns of different nations, can affect a researcher's ability to travel to certain countries and transport certain research equipment. The Export Control panel will discuss the various issues raised by these regulations, their effect on international research collaborations, and compliance strategies used by various institutions to meet these challenges.²⁶

H. Legal Issues and Agreements (Plenary Session)

Conducting research with foreign partners can take a wide variety of forms. Sometimes this involves conducting research in the [United States] with foreign partners; other times it may involve field research, setting up limited business operations, or even establishment of a new campus overseas. This panel will discuss the legal issues related to these various scenarios. The speakers will discuss registration and memoranda of understanding with foreign governments and governmental approvals. It will also cover legal agreements and documents used to facilitate particular business activities, such as payment of taxes, real estate issues, and employment requirements. The panel will cover methods used by institutions to incorporate legal review into ongoing operations. In addition, the panel will discuss the research funding opportunities and challenges presented by the European Union's 7th Framework Programme.²⁷

As you can see, the I-Group workshop tackled a myriad of issues present within international research collaborations. Judging from the feedback in the aftermath of the July 2010 workshop, the group succeeded.

VI. SPECIAL FOCUS: THE INTELLECTUAL PROPERTY TRACK (IP)

In one sense, intellectual property (IP) is much like international

²⁶ *Id.*

²⁷ *Id.*

collaboration in general because it contains both technical and policy dimensions.²⁸ The area of IP also contains such concepts as innovation,²⁹ job creation,³⁰ technology transfer, and wealth creation. The execution of licenses to foster the transfer of technology is one major area of IP.³¹

Patents are a major type of IP (along with copyrights, trademarks, and trade secrets) and occupy the majority of research and technology transfer professionals' time at colleges and universities. Colleges and universities are increasingly taking legal action to protect their interests in IP, reflecting a common course of action by private businesses. Such legal action, whether taken by universities or private companies, is often a high-stakes game. Recently, Microsoft Co-Founder Paul Allen has unleashed a patent war against some major Web companies, claiming that they are using technologies in the patents he owns and therefore he should be compensated for such use.³² This situation is the latest high profile litigation in protecting IP from unauthorized use. It also poses the question: what impact will IP litigation have on patents and international research collaboration? While this question was not explicitly addressed during the workshop, the question

²⁸ For an excellent recent book on intellectual property and technology transfer worth reading, see PATRICK VAN EECHE ET AL., *MONITORING AND ANALYSIS OF TECHNOLOGY TRANSFER AND INTELLECTUAL PROPERTY REGIMES AND THEIR USE* (Story Publishers 2008). The book is "the result of a study jointly undertaken by law firms DLA Piper UK (Brussels) and Mason Hayes+Curran (Dublin), following the invitation to tender '*Monitoring and analysis of technology transfer and intellectual property regimes and their use*,' issued in 2005 by the Research Directorate General of the European Commission." *Id.* at 3. Some of the legal topics covered in the study include professor's privilege, prior user rights, and the experimental use exception, all analyzed from a comparative law perspective. *Id.* at 5. The jurisdictions covered in the book include most European Union member states as well as the United States and Japan. *Id.* at 6.

²⁹ For an article detailing the growth and geographic diffusion of China's patent system, see Kenneth G. Huang, *China's Innovation Landscape*, *SCI*, Aug. 6, 2010, at 632.

³⁰ In their recent editorial in the *New York Times*, Paul R. Michel and Henry R. Nothhaft argue that fully financing the U.S. Patent and Trademark Office and creating an innovation tax credit could "create as many as 2.5 million jobs in the next three years," and "add up to 600,000 jobs every year thereafter." Paul R. Michel & Henry R. Nothhaft, *Inventing Our Way Out of Joblessness*, *N.Y. TIMES*, Aug. 6, 2010, at A23. "Paul R. Michel is a former chief judge of the United States Court of Appeals for the Federal Circuit, which handles patent appeals. Henry R. Nothhaft, the chief executive of a technology miniaturization firm, is a co-author of a forthcoming entitled, 'Great Again.'" *Id.*

³¹ "In the summer of 2006, Stanford University's then Dean of Research Arthur Bienenstock convened a small meeting of research officers, licensing directors and a representative from the Association of American Medical Colleges to brainstorm about important societal, policy, legislative and other issues in university technology transfer." *In the Public Interest: Nine Points to Consider in Licensing University Technology*, 1 (Working Paper 2007) (on file with author). Their work resulted in an unpublished working paper entitled, "In the Public Interest: Nine Points to Consider in Licensing University Technology." The nine points are as follows: 1) "Universities should reserve the right to practiced licensed inventions and to allow other non-profit and governmental organizations to do so"; 2) "Exclusive licenses should be structured in a manner that encourages technology development and use"; 3) "Strive to minimize the licensing of 'future improvements'"; 4) "Universities should anticipate and help to manage technology transfer related conflicts of interest"; 5) "Ensure broad access to research tools"; 6) "Enforcement action should be carefully considered"; 7) "Be mindful of export regulations"; 8) "Be mindful of the implications of working with patent aggregators"; and 9) "Consider including provisions that address unmet needs, such as those of neglected patient populations or geographic areas, giving particular attention to improved therapeutics, diagnostics and agricultural technologies for the developing world." *Id.* at 2-9.

³² See Dionne Searcey, *Microsoft Founder Unleashes Patent War*, *WALL ST. J.*, Aug. 28-29, 2010, at A1, A4.

was lurking just below the surface.

VII. WORKSHOP PRESENTATIONS ON INTELLECTUAL PROPERTY³³

The IP portion of the workshop contained presentations by Brian Warshawsky³⁴ and Professor Brian Fitzgerald.³⁵ Brian Warshawsky talked about the various issues in the university-industry relationship as they relate to contracting, including positive and recent trends, problematic communication and misunderstanding of mission, background intellectual property (BIP), and the balance between compliance and facilitation.³⁶ His presentation ended with a case study involving a National Science Foundation (NSF) Early Career Award, whereby a company, as a subcontractor under the award (Northwestern University was the prime awardee), wanted terms and conditions which were incompatible with the award from NSF to Northwestern University.³⁷ This illustrates the problems that can arise from misunderstanding the roles of universities and industry in federally-sponsored research.

Professor Fitzgerald provided a general overview of intellectual property and the issues facing the national patent systems (arising either between national offices and the inventor community, or between national

³³ One member of the IP team, Dr. Eskil Ullberg, Visiting Research Scholar at George Mason University, submitted a paper for consideration by IP team members during the workshop proceedings summarizing research on organized patent exchanges. The paper was “first published in French for the »Conseil D’Analyse Économique du Premier Ministre». The note is based on original research that formed the author’s PhD thesis.” Eskil Ullberg, *From Personal to Impersonal Exchange in Ideas 1* (2009) (unpublished note) (on file with the Dayton Law Review).

³⁴ NAT’L COUNCIL OF UNIV. RESEARCH ADM’RS, *Workshop Information*, http://www.ncura.edu/content/educational_programs/sites/52/program/workshop-info/ (follow “Brian Warshawsky” hyperlink) (2010). Brian Warshawsky is “originally licensed in Michigan, Illinois, and Florida, and serves as the Senior Contracting Officer for Northwestern University’s Office for Sponsored Research where he focuses on contract negotiations and regulatory compliance including issues of foreign national participation in research and export controls,” and has served on the AAU/COGR [American Association of Universities/Council on Governmental Relations] troublesome clauses taskforces. *Id.* “Prior to joining Northwestern University, [he] served in a similar capacity for the Gas Technology Institute, the energy research think tank, located in Des Plaines, Illinois.” *Id.*

³⁵ Professor Brian Fitzgerald is a specialist Research Professor in Intellectual Property and Innovation at the Queensland University of Technology Faculty of Law in Brisbane, Australia, Honorary Professor at City University of London, and Chief Investigator in the ARC Centre of Excellence for Creative Industries and Innovation. *Biographies*, UNIV. OF SYDNEY, AUSTR., http://ses.library.usyd.edu.au/bitstream/2123/6564/1/PSI_vol1_biographies.pdf (last visited Nov. 19, 2010). He is also the Project Leader of Peer to Patent Australia and The Legal Framework for eResearch. Brian Fitzgerald, QUEENSL. UNIV. OF TECH., <http://www.law.qut.edu.au/staff/lstaff/fitzgerald.jsp> (last visited Nov. 19, 2010). “He is well known in the areas of Intellectual Property and Internet Law and has worked closely with Australian governments on facilitating access to public sector information.” *Biographies, supra*. He studied law at the Queensland University of Technology, graduating as University Medallist in Law, and holds postgraduate degrees in law from Harvard University and Oxford University. *Id.*

³⁶ Brian Warshawsky, Senior Contracting Officer, Nw. Univ., Address at Working Group on International Research Collaborations (“I-Group”): Examining Core Elements of International Research Collaboration (July 26, 2010), available at http://sites.nationalacademies.org/PGA/guirr/PGA_058064 (follow “Brian Warshawsky, Senior Contracting Officer, Northwestern University” hyperlink) (last visited Nov. 19, 2010) [hereinafter Warshawsky Address].

³⁷ *Id.*

offices³⁸), and he provided some particular initiatives under way to help fuel IP, collaboration, and innovation.³⁹ The latter initiatives included the Patent Prosecution Highway,⁴⁰ the Vancouver Group (based upon principles of “mutual exploitation”),⁴¹ Patent Informatics,⁴² and the Peer-to-Patent project.⁴³ We will focus on the Peer-to Patent Project for the purposes of this paper.

A. *The Peer-to-Patent Project in General*⁴⁴

The Peer-to-Patent Project, founded by Professor Beth Novack, had its origins in a project developed at the New York Law School.⁴⁵ Based upon a software platform, the first pilot project of Peer-to-Patent was launched in June 2007 under an agreement with the United States Patent and Trademark Office (USPTO).⁴⁶ The Australian pilot project is described in the next section.

Peer-to-Patent integrates the elements of computer software, patent efficiency and effectiveness, and the political idea of participatory democracy into one platform. Utilizing “netizens” (net citizens), peer reviewers who “review participating patent applications in terms of the novelty and inventiveness,” the ultimate purpose of Peer-to-Patent is to improve “the quality of issued patents by facilitating community participation in the patent examination process.”⁴⁷ Peer reviewers “[s]ubmit relevant prior art references,” and the community “comment[s] and vote[s]

³⁸ Note that there is no international office of patents that issues “international” patents.

³⁹ Brian Fitzgerald, Professor, Queensl. Univ. of Tech. Faculty of Law, Austl., Address at Working Group on International Research Collaborations (“I-Group”): Examining Core Elements of International Research Collaboration (July 26, 2010), available at http://sites.nationalacademies.org/PGA/guirr/PGA_058064 (follow “Brian Fitzgerald, Professor, Queensland University of Technology Faculty of Law, Australia” hyperlink) (last viewed Nov. 19, 2010) [hereinafter Fitzgerald Address].

⁴⁰ *Id.* at 15-19. The Patent Prosecution Highway (PPH) is typically bilateral agreements between patent offices. “PPH arrangements exist between patent offices in Australia, Canada, Denmark, Europe, Finland, Germany, Japan, Korea, the UK, and the US.” *Id.* at 15.

⁴¹ *Id.* at 20-21. The Vancouver Group contains the countries of Canada, Australia, and the United Kingdom. *Id.* at 20. The group is “[a]n office-driven work sharing arrangement” and aims to “eliminate duplication between participating offices.” *Id.* This goal is achieved by “sharing information and relying on examination reports from offices within the group,” and “where possible the patent office of a Vancouver Group country will rely on a search or examination performed by another office.” *Id.*

⁴² Patent informatics is essentially the use of computers to maintain and analyze large amounts of patent data. Two such patent databases include CAMBIA’s Patent Lens site (www.patentlens.org) and Google Patents (www.google.com/patents).

⁴³ For a complete discussion of Peer-to-Patent and its pilot projects, see Fitzgerald Address, *supra* note 39, at 38-55.

⁴⁴ *Welcome to Peer to Patent*, PEER TO PATENT, <http://www.peertopatent.org> (last visited Nov. 19, 2010).

⁴⁵ *About the Project*, PEER TO PATENT, <http://peertopatent.tumblr.com/abouttheproject> (last visited Nov. 19, 2010). Her 2009 book, *WIKI GOVERNMENT*, details the rise of Peer-to-Patent. BETH SIMONE NOVACK, *WIKI GOVERNMENT* (2009).

⁴⁶ Fitzgerald Address, *supra* note 39, at 43. The 2nd Anniversary Report of the U.S. pilot project showed that there were 2,600 registered peer reviewers that reviewed 187 patent applications as of May 30, 2009, and that “[p]rior art [was] used to reject one or more claims in 18 patent applications” (approximately 10% of cases). *Id.* at 44.

⁴⁷ *Id.* at 38.

on the relevance of [the] prior art references.”⁴⁸ “The top [ten] prior art references . . . are forwarded to the patent office,” where they are hopefully considered by the patent examiner during the process.⁴⁹

What are the public and private benefits of the process? Clearly, the most obvious public benefits are threefold: 1) a higher quality patent; 2) a patent that “represent[s] novel and inventive advance[s] over the existing state of the art”;⁵⁰ and 3) a process that results in “[c]learer patent landscapes and reduced uncertainty surrounding freedom to operate” said inventions.⁵¹ The private (“patent applicant”) benefits include: 1) more rigorous (and hopefully robust) patent applications; 2) the subsequent result of fewer disputes and litigation; and 3) the subsequent result of time and money savings for applicants by identifying and eliminating weak claims.⁵²

*B. The Australia Peer-to-Patent Project*⁵³

The six-month Australia pilot of Peer-to-Patent took place between December 2009 and May 2010, and represented collaboration between the Queensland University of Technology⁵⁴ and IP Australia.⁵⁵ This pilot was closely modeled on the United States pilots—the same software platform was used, the consent of applicants was sought prior to their inclusion in the project (these were applications that were “laid open to public inspection” and “for which an examination request ha[d] been made by the applicant”⁵⁶), and each application was open for a ninety-day review period.⁵⁷ The technology areas were limited to “business methods [and] computer

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.* at 39.

⁵¹ *Id.*

⁵² *Id.* The 2nd anniversary report of the U.S. pilot showed that: 1) “75% of reviewers think that a third-party submission of prior art program like Peer to Patent should be incorporated as regular USPTO practice”; 2) “69% of examiners think that a program like Peer to Patent would be useful if incorporated into regular office practice”; and 3) “67% of examiners believe Peer to Patent would be helpful in doing their job.” *Id.* at 45.

⁵³ *Welcome to Peer-to-Patent Australia*, PEER-TO-PATENT AUSTRALIA, <http://www.peertopatent.org.au> (last visited Nov. 19, 2010).

⁵⁴ QUEENSL. UNIV. OF TECH., www.qut.edu.au (last visited Nov. 19, 2010).

⁵⁵ *About IP Australia*, IP AUSTRALIA (2010), <http://www.ipaustralia.gov.au/about/index.shtml>. IP Australia is an Australian Government body charged with supporting creativity and innovation, and is based upon the premise that “Australia’s economic well-being depends on capturing the benefits of increased innovation and creativity.” *Id.*

IP Australia’s role is to provide a strong intellectual property system which promotes innovation, investment and trade. Generally, IP Australia focuses on ensuring that: [1] the Australian IP system meets business needs; [2] the international IP system meets the needs of Australians; [3] our people work together in an environment where we continually learn in order to succeed; [4] we provide our customers with quality services that meet their needs; and [5] our operations are cost effective.

Id.

⁵⁶ Fitzgerald Address, *supra* note 39, at 47.

⁵⁷ *Id.*

software and related applications.”⁵⁸ Thirty-one participating applications were involved (including applications from IBM, General Electric, Hewlett-Packard, Australia CSIRO, Yahoo!, and Western Union), and 131 registered peer reviewers submitted 106 prior art references.⁵⁹ As of this writing, the project managers are awaiting the examination results, but the interim feedback shows that the project has had an impact along the lines shown in the United States and Japan pilot projects.⁶⁰

C. *Applicability of Peer-to-Patent to University Technology Transfer*

What is the applicability of the Peer-to-Patent methodology to university technology transfer? Professor Fitzgerald and others have espoused the following view:

Peer-to-Patent may be of particular value to university technology transfer officers as a means of signaling potential obstacles to successful patent prosecution. Unlike large corporate patent offices that have substantial operating budgets for patent prosecution, university technology transfer officers are often limited in their financial resources for patent prosecution. As a consequence, patent prosecution in a university setting may be hampered by imperfect information about the state of the art a patent may have to compete with. The sooner a technology transfer officer can determine the likelihood of validity and breadth of claims, the better. This is where Peer-to-Patent steps in. If a patent application quickly draws attention and draws substantial prior art assertions from reviewers, the technology transfer officer may be in a better position to assess whether continued prosecution is worthwhile. Thus, Peer-to-Patent may lend itself to improving university tech transfer efficiency and financial performance.⁶¹

D. *The Future of Peer-to-Patent*

The future of Peer-to-Patent includes another project in Japan, one project in Korea, and a third pilot project in the United States between the USPTO and New York Law School.⁶² There is some possibility that Peer-to-Patent may be run by the World Intellectual Property Organization (WIPO) as part of the international application process under the Patent

⁵⁸ *Id.*

⁵⁹ *Id.* at 51.

⁶⁰ *Id.* at 45 (concluding that a six-month pilot in Japan showed comparable results to the U.S. pilot).

⁶¹ Brian Fitzgerald, Ben McEniery & Mark Webink, *The Peer-to-Patent Initiative*, NCURA MAG., Sept./Oct. 2010, at 9; Fitzgerald Address, *supra* note 39, at 55 (quoting Fitzgerald’s “The Peer-to-Patent Initiative” article).

⁶² Fitzgerald Address, *supra* note 39, at 52.

Cooperation Treaty (PCT).⁶³ Professor Fitzgerald believes that a “Peer to Patent project at the WIPO/PCT stage would benefit from [the] harmonisation of procedural and substantive patent law.”⁶⁴ In addition, he believes that some enhancements are necessary, such as getting people (patent applicants and peer reviewers) to connect with the project and encouraging potential reviewers.⁶⁵

E. Observations of Peer-to-Patent

It appears that Peer-to-Patent has succeeded over the past, approximately, three years. Its pilot projects in the United States, Australia, and Japan have seen positive contributions from “netizens” who served as peer reviewers on patent applications, lending input on relevant prior art that will increase rigor in the patent process and ultimately will lead to stronger patent applications and stronger issued patents. This increased strength, however defined, should lead to a clearer patent landscape that all inventors, holders of issued patents, holders of any patents, and those entities involved in wealth creation and innovation can appreciate. Clearly, more needs to be done. But in the spirit of the I-Group workshop, where increased collaboration and creativity are implicitly desired, projects such as Peer-to-Patent have a necessary place in improving the field and management of IP.

VIII. THE IP BREAKOUT SESSION: A SUMMARY

Day Two of the workshop was primarily focused on breakout sessions that considered a number of previously drawn up questions, particularly in light of the presentations on Day One. The following IP Team members⁶⁶ participated in the IP breakout session on Day Two:

- (1) James Casey, The University of Texas at San Antonio, IP Track Champion;
- (2) Professor Brian Fitzgerald, Queensland University of Technology Faculty of Law;
- (3) Steve Merrill, The National Academies;
- (4) Louis Rodriguez, Southwest Research Institute (SwRI);⁶⁷
- (5) Bernard Trombley, Huron Consulting Group;

⁶³ *Id.*

⁶⁴ *Id.* at 53.

⁶⁵ *Id.* at 54.

⁶⁶ Three IP team members were unable to make the workshop: Ann Hammersla, Ma Jun, and Eskil Ullberg. Although unable to attend, Ma Jun provided written answers to the breakout questions. *See infra* Appendix C.

⁶⁷ SwRI is the industry partner with the University of Texas at San Antonio in GUIRR. Press Release, Sw. Research Inst., UTSA SwRI Partner to Join Elite National Research Roundtable (Mar. 24, 2009), available at <http://www.swri.org/PrinterFriendly/TechPrint.asp>.

- (6) Brian Warshawsky, Northwestern University;
- (7) Tony Boccanfuso, University-Industry Demonstration Partnership (UIDP);⁶⁸
- (8) Richard Herman, University of Illinois;
- (9) Wayne Johnson, Consultant;
- (10) J.P. Kim, National Institutes of Health;
- (11) Astrid Christina-Koch, European Union, Delegation to the United States of America;
- (12) Rafic Makki, Abu Dhabi Education Council;
- (13) Michael Sennett, United States Army.

The IP breakout session on Day Two was energetic and vibrant. As the immediately preceding list indicates, the session had a good mix of United States and non-United States participants, which lent a comparative flavor to the discussion. Appendix D contains the text version of the breakout discussions; but some of the more intriguing thoughts posed for consideration were: (1) increasing the efficiency and effectiveness of the USPTO; (2) evolving to a patent system that treats different technologies differently, particularly for reasons of getting to market; (3) utilizing the Patent Prosecution Highway as a possible model; (4) “[i]ncreasing the compatibility, efficiency, and output quality (issued patents) of the national patent systems”; (5) arguing that “the [United States] Government should create a roadmap for a strategic [United States] Innovation Policy”; (6) arguing that primary and secondary education in the United States needs to be significantly improved for an innovation economy, in fact, teaching “innovation literacy”; (7) arguing that industry needs to become “university literate”; and (8) arguing that universities need to realize that “industry ‘is not the devil’—that building relationships with industry can lead to better research in the lab and education in the classroom.”⁶⁹

The IP discussions held on Day Two embodied the best of the area itself, focusing on technical and policy discussions that included not only looking at the “ground level” but also the “30,000 foot” perspective.

IX. FOLLOW-ON ACTIVITIES AND THE FUTURE

As of this writing, December 2010, the July workshop summary is being prepared for publication. Additional follow-on activities include the development of a primer on issues in international research collaborations,

⁶⁸ For more information on UIDP, see UNIV.-INDUS. DEMONSTRATION P'SHIP, <http://sites.nationalacademies.org/pga/uidp/index.htm> (last visited Nov. 19, 2010).

⁶⁹ *Infra* Appendix D.

web and internet enhancements (including improvements to the project website and the utilization of chat groups or discussion forums online so that interested parties can contribute to the online discussion), and a future conference that will build upon the lessons learned from the July workshop. In addition, the project will remain visible to the general public through publication in various outlets. This article is one example of the continuing project efforts through publication.

X. CONCLUSION

What has been learned so far through the International Research Collaborations project? In the opinion of this author, the following can be said:

- (1) The role of international languages and cultural nuance are critical to building collaborations across borders, particularly where cultural gaps are naturally greater.
- (2) Differences in nuance and language are critically important in areas of research ethics and IP, where researchers commonly trained in the principles of traditional (some may say “Western”) scientific inquiry may still hold widely divergent beliefs regarding ethical behavior and the treatment of IP. For instance, what may be considered the misappropriation of IP in one country may be considered a form of flattery (or a compliment) in another country.
- (3) In the case of IP, it is clear that much more needs to be done on the transnational level to protect, harmonize, and synthesize the fruits of research. A balance needs to be maintained between the facilitation of research and the protection of IP, and the transnational protection must not be so compliance-focused that it results in decreased innovation and creativity. IP policy and management is of critical importance here and one that begs for increased attention. The Peer-to-Patent project is one current example of efforts to improve the area of IP. Nevertheless, IP management models should receive additional, comprehensive attention.
- (4) Export controls will remain a significant and complex issue well into the future, bearing not only upon the protection of national security and research activity but also upon its relationship to IP. The Obama Administration has recently announced efforts to reform and tighten the United States export control regime, but it is too early to gauge the results of that effort.

- (5) The only way to continually expand international collaborations and improve their quality is through continued communication between stakeholders in government, academia, and industry—the three sectors represented by GUIRR. Therefore, it seems obvious that GUIRR should remain an integral voice in the international research collaborations debate.
- (6) The field of international research collaborations is constantly changing, often due to circumstances (economic, political, social, and cultural) beyond the control of the parties directly involved in international research collaboration. Therefore, the parties involved in this area must maintain nimble, flexible postures in order to succeed at such collaboration.

In the final analysis, successful management of international research projects requires “the intellectual flexibility on which adaptive expertise depends.”⁷⁰ Those concepts—intellectual flexibility and adaptive expertise—were embedded in the July 2010 workshop and are key components of the project as work continues in 2011.

⁷⁰ This quote was originally made in the context of the importance of science in medical school education, but applies equally to research management in the international context. *See* Molly Cook, *Science for Physicians*, *SCI. MAG.*, Sept. 24, 2010, at 1573, 1573; *see also* MOLLY COOK, DAVID M. IRBY, & BRIDGET E. O'BRIEN, *EDUCATING PHYSICIANS: A CALL FOR REFORM OF MEDICAL SCHOOL AND RESIDENCY* (2010).

APPENDIX A⁷¹**Core Members of the “I-Group”****National Academies Advisory “Committee of Six”**

- John Carfora (co-Chair), Associate Vice President for Research Advancement and Compliance, Loyola Marymount University
- James Casey (co-Chair), Director of Contracts and Industrial Agreements, The University of Texas at San Antonio
- KunMo Chung, Distinguished Visiting Professor, George Mason University; Former Minister of Science and Technology in South Korea; Former Chairman and CEO, Korea Science and Engineering Foundation; Former President, Korean Academy of Science and Technology; Founding Provost, Korea Advanced Institute of Science and Technology (KAIST)
- Giulia Del Brenna, Head of Unit, Competitiveness in the Pharmaceuticals Industry and Biotechnology, European Commission-DG Enterprise and Industry
- Celia Merzbacher, Vice President, Innovative Partnerships, Semiconductor Research Corporation
- Barbara Mittleman, Director, Public-Private Partnership Program, Office of Science Policy, National Institutes of Health

Additional I-Group Planning Members (the “Informal Planning Group”)

- Susan Butts, Senior Director (retired), The Dow Chemical Company
- Brian Fitzgerald, Professor of Intellectual Property and Innovation, Queensland University of Technology Faculty of Law, Australia; Visiting Professor, City University, London, United Kingdom
- Wayne Johnson, Former VP, University Relations Worldwide, Hewlett-Packard Company
- Maria Koszalka, Consultant, Northrop Grumman Corporation
- Mark Maurice, Director, International Office, Air Force Office of Scientific Research
- C.D. (Dan) Mote, Jr., President, University of Maryland at College Park

⁷¹ “I-Group” Core Member List, GOV’T-UNIV.-INDUS. RESEARCH ROUNDTABLE, http://sites.nationalacademies.org/PGA/guirr/PGA_050827 (follow “‘I-Group’ Core Member List” hyperlink) (last visited Nov. 19, 2010).

- Norka Ruiz Bravo, Advisor, Research Policy Development, Pan American Health Organization
- Wally Schaffer, Senior Scientific Advisor for Extramural Research, National Institutes of Health
- Patrick Schlesinger, Assistant Vice Chancellor, Research Administration and Compliance, University of California-Berkeley
- Susan Sauer Sloan, Director, Government-University-Industry Research Roundtable (GUIRR), The National Academies
- Robin Staffin, Acting Deputy Under Secretary of Defense of Laboratories and Basic Sciences, United States Department of Defense
- Sandra Titus, Director, Intramural Research, Office of Research Integrity, United States Department of Health and Human Services
- Larry Weber, Director, Office of International Science and Engineering, National Science Foundation

APPENDIX B⁷²

Government-University-Industry Research Roundtable (GUIRR)
Working Group on International Research Collaborations (“I-Group”)

**Examining Core Elements of International Research Collaboration: A
Workshop**

July 26-27, 2010

The National Academies
500 Fifth Street, N.W.
Washington, DC 20001

AGENDA

Monday, July 26

LOCATION: The National Academies Keck 100

- | | |
|-----------------|--|
| 7:30-8:00 a.m. | Continental Breakfast |
| 8:00-8:30 a.m. | Welcome from Organizers, Workshop Goals
C. D. (Dan) Mote, Jr. , President, University of
Maryland at College Park |
| 8:30-10:00 a.m. | Creating an Environment for Productive
International Collaboration |

The role of international collaborations in advancing knowledge and offering economic opportunities worldwide is growing, thanks to factors such as access to the internet; globalization; and greater mobility of information, ideas, and people. Though international research collaborations also are growing (as measured, for example, by multinational co-authorship on publications and shared funding for international research projects), there are bottlenecks and frictions that can pose impediments to meaningful and

⁷² Appendix B is taken in its entirety from the GUIRR web site. See *Agenda*, GOV'T UNIV.-INDUS. RESEARCH ROUNDTABLE, http://sites.nationalacademies.org/PGA/guirr/PGA_058064 (last visited Nov. 19, 2010).

successful international collaborations. This track will look broadly at trends and issues that pertain to fostering productive international collaboration from the point of view of governments, universities, and industry.

- Moderators – **Celia Merzbacher**, Vice President, Innovative Partnerships, Semiconductor Research Corporation
AND **John Carfora**, Associate Vice President for Research Advancement and Compliance, Loyola Marymount University-Los Angeles
- Five speakers (15 minutes each)
 - **Lawrence Gumbiner**, Deputy Assistant Secretary of State for Science, Space & Health, U.S. Department of State
 - **Rafic Makki**, Executive Director and interim Executive Director of Higher Education, Abu Dhabi Education Council
 - **John Kirkland**, Deputy Secretary General, Association of Commonwealth Universities, London
 - **Low Teck Seng**, Executive Director, A*STAR's Science and Engineering Research Council (Singapore)
 - **Eduardo Lopez Moreno**, Director, Urban Monitoring Division, United Nations Human Settlements Division
- Q&A (15 minutes)

10:00-10:10 a.m.

Break

10:10-11:40 a.m.

Cultural Differences and Nuances

Quite often cross-cultural nuances and culture-centric perspectives – grounded in one's experience or merely assumed – often cloud conversations between faculty researchers and research administrators when they are negotiating the shared development of meaningful international research agreements. In this session we will hear from a number of experts on cross-cultural communications, understanding, and collaborations.

- Moderator – **John Carfora**, Associate Vice President for Research Advancement and Compliance, Loyola Marymount University-Los Angeles
- Four speakers (20 minutes each)
 - **Riall Nolan**, Vice Provost for International Programs, Purdue University
 - **Christopher Williams**, Representative, UN-HABITAT Washington Office
 - **Tembeka Mpako-Ntusi**, South African Research and Innovation Managers' Association; Director of Research, Cape Peninsula University of Technology, Cape Town, S.A.
 - **Elias Wondimu**, Publisher and Editorial Director, Tsahai Publishers, Marymount Institute Press, African Academic Press
- Q&A (10 minutes)

11:40 a.m.-12:30 p.m.

Ethics

The ethics panel stands between the culture panel and the research integrity panel in the sense that ethics are informed by culture and govern behavioral choices in the conduct of research. This panel will explore issues related to the ethics of safeguarding privacy/ security/ and confidentiality; bioethical issues related to human subjects research as well as other activities with bioethical implications, all from both a domestic U.S. and a global perspective.

- Moderator – **Barbara Mittleman**, Director, Public-Private Partnership Program, Office of Science Policy, Office of the Director, National Institutes of Health (NIH)
- Three speakers (15 minutes each)
 - **Susan Butts**, Senior R&D Director [retired], Dow Chemical Company
 - **Lisa Bero**, Professor, University of California-San Francisco
 - **Stephanie Bird**, co-Editor-in-Chief, *Science and Engineering*

Ethics

- Q&A (5 minutes)

12:30-1:30 p.m.

Lunch

Introduction: **John Carfora**, Associate Vice President for Research Advancement and Compliance, Loyola Marymount University-Los Angeles

KEYNOTE SPEAKER: **Nina Fedoroff**, Science and Technology Adviser to the Secretary of State and to the Administrator of USAID

“International Research Collaborations: The Promise and the Practice”

1:30-2:20 p.m.

Research Integrity and the Responsible Conduct of Research

The research integrity panel continues the ethics discussion by focusing on standards and practices that promote responsible data collection and appropriate authorship byline decisions. The panel will explore issues related to current RCR training for data integrity and authorship as well as consider the impact that different international PhD educational standards can have on data integrity. The panel will conclude with a discussion by an international team who will describe their experiences in negotiating authorship agreements and in building capacity to assure data integrity.

- Moderator – **Sandra Titus**, Director, Intramural Research, Office of Research Integrity, Department of Health and Human Services (DHHS)
- Three presentations (15 minutes each)
 - **David Resnick**, Bioethicist, Chair of National Institute of Environmental Health Sciences (NIEHS) Institutional Review Board, National Institutes of Health (NIH)
 - **Philip Altbach**, Director of the Center for International Higher Education, Boston College
 - **William Blattner**, Director and Principal Investigator for the Institute of Human Virology HIV

Vaccine Trials Unit, University of Maryland **AND Aliyu Gambo Bumel**, Fogarty International Research Fellow

- Q&A (5 minutes)

2:20-3:10 p.m.

Risk Management

Risk Management is a continuous process designed to proactively identify and mitigate risks to help promote the achievement of the organization's objectives, strategy, and mission. Risk management also drives accountability and integrity of the organization's work and helps ensure individuals within the organization see it as their responsibility to reduce risk as part of their daily jobs. The panel will explore specific issues relating to risk management in the international setting.

- Moderator – **John J. McGowan**, Deputy Director, National Institute of Allergy and Infectious Disease (NIAID)
- Three speakers (15 minutes each)
 - **Manning Muntzing**, A Founder and Director of International Risk Governance Council
 - **Suzanne Servis**, Director, Risk Management Program, National Institutes of Health
 - **Maria Velez de Berliner**, Managing Partner, Intelligent Decision Partners, LLC
- Q&A (5 minutes)

3:10-3:20 p.m.

Break

3:20-4:10 p.m.

Intellectual Property

Intellectual Property (IP) is a central issue in international research collaborations. What is the balance between the facilitation of research and the protection of IP? The members of the IP track will discuss and outline the major issues, challenges, and successes of IP on the international level. This will include such topics as background intellectual property (BIP), the connection between IP and export control, the management of IP at the university, industry, and governmental levels, and emerging issues in the coming years (such as managing IP given

the increasing transportation of large data sets and research across national borders). The IP team will pay particular attention to practices and models of IP used in individual countries, for inclusion in project deliverables.

- Moderator – **James Casey**, Director of Contracts and Industrial Agreements, The University of Texas at San Antonio
- Two speakers (20 minutes each)
 - **Brian Warshawsky**, Senior Contracting Officer, Northwestern University
 - **Brian Fitzgerald**, Professor, Queensland University of Technology Faculty of Law, Australia
- Q&A (10 minutes)

4:10-5:10 p.m.

Export Controls

Export control regulation presents special challenges when working with international collaborators and when conducting research overseas. Researchers who are used to open academic environments are often surprised to learn that certain areas of collaboration, especially in science and engineering, may be more difficult with certain international partners. In addition, trade embargoes and sanctions, reflecting foreign policy concerns of different nations, can affect a researcher's ability to travel to certain countries and transport certain research equipment. The Export Control panel will discuss the various issues raised by these regulations, their effect on international research collaborations, and compliance strategies used by various institutions to meet these challenges.

- Moderator – **Giulia Del Brenna**, Head of Unit, Competitiveness in the Pharmaceuticals Industry and Biotechnology, European Commission, DG Enterprise and Industry
- Five speakers (10 minutes each)
 - **Steven Pelak**, Deputy Chief, Counterespionage Section, U.S. Department of Justice
 - **Richard Johnson**, Senior Counsel and Senior Partner (Ret.), Arnold

& Porter LLP

- **Steven Eisner**, Export Control Officer, Stanford University
 - **Michael Gold**, Director, Washington DC Operations and Business Growth, Bigelow Aerospace
 - **Emmanuel de Lipkowski**, Space Attaché and CNES Representative, Embassy of France
- Q&A (10 minutes)

5:10-5:30 p.m.

Recap; Review Break-out Plans for Meeting Day Two

6:30 p.m.

Dinner – National Academies Keck Center, 3rd Floor Atrium

Introduction: **James Casey**, Director of Contracts and Industrial Agreements, The University of Texas at San Antonio

KEYNOTE SPEAKER: **Kathie Olsen**, Vice President, International Programs, Association of Public and Land-Grant Universities (APLU)

“Internationalization/Globalization of Higher Education”

Tuesday, July 27

LOCATION: The National Academies Keck 100

8:00-8:30 a.m.

Continental Breakfast

8:30-10:00 a.m.

Plenary Session: Legal Issues and Agreements

Conducting research with foreign partners can take a wide variety of forms. Sometimes this involves conducting research in the U.S. with foreign partners; other times it may involve field research, setting up limited business operations, or even establishment of a new campus overseas. This panel will discuss the legal issues related to these various scenarios. The speakers will discuss registration and memoranda of understanding with foreign governments and governmental approvals. It will also cover legal agreements and documents used to facilitate particular

business activities, such as payment of taxes, real estate issues, and employment requirements. The panel will cover methods used by institutions to incorporate legal review into ongoing operations. In addition, the panel will discuss the research funding opportunities and challenges presented by the European Union's 7th Framework Programme.

- Moderator – **Patrick Schlesinger**, Assistant Vice Chancellor, Research Administration and Compliance, University of California, Berkeley
- Three speakers (25 minutes each)
 - **William Ferreira**, Attorney at Law, Hogan Lovells LLP
 - **Jamie Lewis Keith**, Vice President and General Counsel, University of Florida
 - **Astrid-Christina Koch**, Science, Technology and Education, Delegation of the European Union
- Q&A (15 minutes)

10:00-10:10 a.m.

Break

10:10 a.m.-12:30 p.m.

Track-Specific Break-out Groups

- Ethics (Keck 202)
 - **Norka Ruiz Bravo**, Advisor, Research Policy Development, Pan American Health Organization (PAHO)*
 - **Barbara Mittleman**, Director, Public-Private Partnership Program, Office of Science Policy, Office of the Director, National Institutes of Health (NIH)
 - **Lisa Bero**, Professor, University of California, San Francisco
 - **Susan Butts**, Senior R&D Director [retired], Dow Chemical Company
 - **Rachelle Hollander**, Director, Center on Engineering Ethics, National Academy of Engineering

- **Kelly Joyce**, Program Director, Science, Technology, and Society Program, NSF
- Research Integrity and the Responsible Conduct of Research (Keck 100)
 - **Sandra Titus**, Director, Intramural Research, Office of Research Integrity, Department of Health and Human Services (DHHS)*
 - **William Blattner**, Institute for Human Virology, University of Maryland
 - **Miriam Kelty**, Consultant, Bioethics and Research Strategy and Chair, Inter-Institute Bioethics Interest Group, National Institutes of Health
 - **Sheila Garrity**, Director, Division of Research Integrity, Johns Hopkins University School of Medicine
 - **Sharon E. Moss**, Health Science Specialist, Research Integrity & Assurance, Office of Research Oversight, U.S. Department of Veterans Affairs
 - **Adil Shamoo**, Editor-in-Chief, *Accountability in Research*, University of Maryland School of Medicine
 - **Stephanie Bird**, Editor, Science and Engineering Ethics
 - **Cynthia Kleppinger**, Medical Officer, U.S. Food and Drug Administration (FDA)
 - **Susan M. Russell**, Business Development, Oncology, GlaxoSmithKline
 - **John Krueger**, Division of Investigative Oversight, Office of Research Integrity, Department of Health and

- Human Services
 - **Aliyu Gambo Gumel**, Fogarty International Research Fellow
- Intellectual Property (Keck 205)
 - **James Casey**, Director of Contracts and Industrial Agreements, The University of Texas at San Antonio*
 - **Louis Rodriquez**, Deputy General Counsel, Southwest Research Institute (SwRI)
 - **Brian Fitzgerald**, Professor, Queensland University of Technology (Australia)
 - **Ma Jun**, Director, Tsinghua University (Beijing, China)
 - **Steve Merrill**, Director, Board on Science, Technology and Economic Policy, The National Academies
 - **Bernard Trombley**, Director, Huron Consulting Group
 - **Ann Hammersla**, Esq., Director, Division of Policy, Office of Technology Transfer, National Institutes of Health
 - **Brian M. Warshawsky**, Senior Contracting Officer, Northwestern University
 - **Eskil Ullberg**, ICES-George Mason University (Sweden)
- Risk Management (Keck 208)
 - **Celia Merzbacher**, Vice President, Innovative Partnerships Semiconductor Research Corporation*
 - **Manning Muntzing**, International Risk Governance Council
 - **Maria Velez de Berliner**, Managing Partner, Intelligent Decision Partners, LLC
 - **Suzanne Servis**, Director, Risk Management Program,

- National Institutes of Health
- **Ron Kaese**, The Maryland Technology and Development Corporation
- Export Controls (Keck 213)
 - **Patrick Schlesinger**, Assistant Vice Chancellor, Research Administration and Compliance, University of California, Berkeley*
 - **Giulia Del Brenna**, Head of Unit, Competitiveness in the Pharmaceuticals Industry and Biotechnology, European Commission, DG Enterprise and Industry*
 - **John Carfora**, Associate Vice President for Research Advancement and Compliance, Loyola Marymount University-Los Angeles*
 - **Steven Eisner**, Export Control Officer, Stanford University
 - **Susan Wyatt Sedwick**, Associate Vice President for Research and Director of Sponsored Projects, University of Texas at Austin
 - **Bernie Kritzer**, Director of Outreach, Bureau of Industry and Security, U.S. Department of Commerce
 - **Emmanuel de Lipkowski**, Space Attaché and CNES Representative, Embassy of France
 - **Michael Gold**, Director, Washington DC Operations and Business Growth, Bigelow Aerospace
 - **Steven Pelak**, Deputy Chief, Counterespionage Section, U.S. Department of Justice
 - **David Brady**, Director, Office of Export and Secure Research Compliance,

Virginia Polytechnic Institute
and State University

12:30-1:30 p.m.

Lunch (Keck 100)

1:30-2:00 p.m.

**Track-Specific Break-out Groups –
*continued***

- Ethics (Keck 202)
- Research Integrity and the Responsible Conduct of Research (Keck 100)
- Intellectual Property (Keck 205)
- Risk Management (Keck 208)
- Export Controls (Keck 213)

2:00-3:00 p.m.

**Reports from Break-out Groups (~10
minutes per group)**

3:00-3:30 p.m.

**Summary Discussion and Next Steps (Keck
100)**

3:30 p.m.

Adjourn

APPENDIX C

Answers Provided for IP Breakout Session

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Morning Discussion Issues: Hurdles, Tensions, Pressures, Opportunities

1. *What are the hurdles/barriers for IP? Tensions? Pressure points?*

The different objectives between academic research institutes and industry may result in different ways to handle IP. For instance, dissemination of knowledge is the mission of universities. Therefore, publishing papers to disclose new creations and findings are the main objectives of universities. However, industry has different concerns. To make the maximum profit is the only objective of industry. So industry prefers to protect new creations and findings other than publications. That will create barriers to both sides.

Different IP management policy also has different impacts to academy IP and industry IP. Universities encourage technology license to more companies as broad as they can. Industry wants to have an exclusive license to solely develop the new technology.

When negotiating the IP, industry emphasizes the capital importance whereas the academy emphasizes the importance of the intellectual. This results in large tension between the two parties to the allocation of IP results from the collaboration.

Confidentiality is another difficult point to manage by the university as students who engaged in the project are hard to follow the confidentiality rules and even more difficult manage after they graduate.

2. *What are the solutions, workarounds and strategies for successful international collaborations – particularly regarding IP?*

A win-win principle is our strategy when we are working with multinational companies, particularly regarding IP. The practical way is sharing the IP in different ways. For example, both parties co-own IP or each party own IP in their own research fields or even in the same research field both parties own its IP in an alternate way particularly regarding patent.

3. *What are the opportunities for IP-not only to protect but also to facilitate?*

Industry has its advantage in the sense of marketing and the academy has its

advantage in the sense of creation and innovation. So it could make the research work more business oriented and save more resources and time to explore the collaboration if industry could engage the research work in the early stage of R&D collaboration by bring its marketing requests and information to the academy.

Afternoon Discussion Issues: What can be done to shape the future?

1. *What does/can the government need to do?*

Incentive policies or programs by government are necessary to facilitate the university-industry R&D collaboration. Policy defines the IP which created by the program will be shared by university and industry, For example government sponsors university to collaborate with company where matching fund from the company is a precondition. The R&D achievements will be applied in the company who provided the matching fund. Company will pay the royalty to university when there is any profit after the technologies are successfully transferred to company.

2. *What does/can education need to do?*

Education needs an incentive policy to encourage university researchers to do the business market oriented research work.

Establish a university IP management team.

Universities need to employ IP experts or hire IP consultants to engage them in the collaboration negotiation. Professional opinion is helpful to a successful IP negotiation.

3. *What does/can industry need to do?*

Understand and appreciate the true value of the university intellectual.

Have a professional team with management\technology\market is the key issue for a successful technology transfer.

4. *What do researchers need to do?*

Understand that IP is a key issue to industry and follow the contract term.

5. *What do the three sectors need to do together?*

Good communication is key for the three sectors.

APPENDIX D⁷³

Text Version of IP Track Discussion Answers

Morning Discussion Issues: Hurdles, Tensions, Pressures, Opportunities

1. *What material was presented during the first day presentations that are particularly useful for discussion today?*

Participants in the IP breakout session noted the significant stress that is currently present in the U.S. and global economy, affecting both universities and industry. It was felt that this stress results in more short term behavior towards IP rather than long term, partnership building behavior. With reference to the Recovery Act (ARRA), it was felt that IP metrics were lacking in the Act (as a way to measure recovery), although the federal project STAR Metrics is addressing that presently. The IP presentations by Professor Fitzgerald and Mr. Warshawsky on Day One were especially useful in setting the stage for the breakout discussion, particularly the areas of international IP processing, e.g., the efficiency of national patent systems to facilitate at the national level; the potential for patent law harmonization across national systems; and models of IP management.

2. *What are the hurdles/barriers for IP? Tensions? Pressure points?*

Participants in the IP session noted a number of hurdles, tensions, and pressure points that challenge the creation, development, and management of IP. These include the current state of the global and U.S. economies; the lack of cross-cultural understanding relating to what IP is and how it can be used; understanding of patent models is often limited, particularly in countries that have little or no history of protection intellectual property and developing its transfer into the private economy; the inefficiency of national patent systems, particularly the U.S. Patent and Trademark Office, hindering IP; university administrative structures, particularly central administrative offices, are under stress due to the inability to provide for the proper funding of their operations (particularly the 26% cap on U.S. F&A rates as held by the U.S. Office of Management and Budget); the mere fact that different technologies have unique quirks that impact IP and its commercialization; and asymmetry in negotiating power/ability regarding IP, meaning that in IP negotiations one party often has more power than the other. Rarely is the power equal in such a negotiation.

⁷³ Appendix D is taken in its entirety from IP track discussion answers. See Discussion with IP Breakout Session members, GUIRR, Examining Core Elements of International Research Collaboration: A Workshop, (July 26-27 2010) (on file with author). For a complete list of participants, see *supra* Appendix B.

3. *What are the solutions, workarounds and strategies for successful international collaborations – particularly regarding IP?*

Participants felt that trust and personal relationships are the key to success when it comes to IP and international collaborations. In keeping with this thought, it was felt that partnerships strategies need to develop that foster long term collaboration-although one-time, ad hoc relationships will continue to occur and are desirable in appropriate situations. It was further felt that if the parties agreed on a common language or terminology that could help ensure success of international collaboration and IP. Participants also pointed to the Fitzgerald presentation on Day One which pointed out non-U.S. strategies such as the Patent Prosecution Highway-those strategies are worth exploring in the opinion of the breakout group. Lastly, participants felt that professional development on IP and international collaboration is critical. This includes faculty/staff communication, personnel exchanges, conferences, workshops, and other opportunities for interaction.

4. *What are the opportunities for IP-not only to protect but also to facilitate?*

Participants felt that IP management models are the main opportunity for IP. Several participants specifically mentioned iBridge (Kaufmann Foundation) and felt that similar modalities should be considered. The group agreed that people should recognize nuances-public vs. private universities, large entities vs. small entities, etc., that may have success for IP. The group was receptive to the suggestion of using “technology specialists”-consultants serving as intermediaries between inventors and companies, to help facilitate downstream development of IP.

Afternoon Discussion Issues: What can be done to shape the future?

1. *What do you see are the short (less than five years) and long (over five years) term IP issues in international research collaborations?*

It was uniformly felt that a major issue (short and long term) should be increasing the compatibility, efficiency, and output quality (issued patents) of the national patent systems. A long term issue is the harmonization of national patent law. Another short and long-term issue is the uncertainty in the global economy bearing upon IP. A constant issue in the future is the linkage between foreign students (undergraduate and graduate level), export controls, and intellectual property.

2. *What does/can the government need to do?*

It was uniformly and strongly felt that the U.S. Government should create a roadmap for a strategic U.S. Innovation Policy. Several suggestions were made that perhaps the federal government should convene a forum like the

FDP (Federal Demonstration Partnership, www.thefdp.org) for IP. Several suggestions were made that the federal government should do a better job of addressing government-created IP from government research in terms of facilitation.

3. *What does/can education need to do?*

It was strongly felt that primary and secondary schools need to be improved so that colleges and universities do not have to put such an emphasis at remedial education at the undergraduate level. It was also strongly felt that primary and secondary students need better role models (than just athletes and entertainers)-society needs more role models that come out of STEM and other academic disciplines. Participants agreed that more student foreign exchanges at the undergraduate level are necessary-echoing the comments of Dr. Kathie Olsen during her Monday night dinner keynote speech. It was also strongly felt that education should teach “innovation literacy” to students at all levels-such literacy being technical and non-technical in content.

4. *What does/can industry need to do?*

Breakout participants felt that industry needs to be “university literate,” meaning having a better understanding of universities. Companies also need to better define what is “precompetitive” for IP purposes. This will allow for better opportunities early on and prevent miscommunication down the road.

5. *What do researchers need to do?*

The group felt that researchers need to realize that “industry is not the devil”-that building relationships with industry can lead to better research in the lab and education in the classroom. Researchers also need to take additional steps to break down silos between their disciplines.

6. *What do the three sectors need to do together?*

The group uniformly felt that the three sectors need to make better attempts to more fully understand each other. In addition, the three sectors need to keep in mind that IP is part of the “commercialization pipeline;” it is a means, not an end. A final thought was proposed: Are Foundations the fourth sector? Several participants mentioned that foundation grant and research awards are becoming more and more detailed in areas of IP. The group thought that this bears greater investigation.

