



MARCH 6-7

2014

3RD ANNUAL CONFERENCE

U.S. Patent and Trademark Office

HEADQUARTERS

ALEXANDRIA • VIRGINIA

CONFERENCE PROGRAM



the Lemelson foundation
improving lives through invention

Showcasing the Power of Invention

The Lemelson Foundation improves lives through invention. We work to inspire and enable the next generation of inventors and invention-based businesses to:

- Strengthen the US economy
- Boost social and economic progress for the poor in developing countries

The Foundation was established by prolific inventor Jerome Lemelson and his wife Dorothy in the early 1990s, with support and guidance from the Lemelson family.

www.lemelson.org



Smithsonian
National Museum of American History
Kenneth E. Behring Center

March 6, 2014

My fellow colleagues:

On behalf of the National Museum of American History at the Smithsonian Institution, I am delighted to welcome you to Washington, D.C. and to the Third Annual Conference of the National Academy of Inventors.

I applaud your dedication to translating ideas into novel creations to benefit society. Our nation was founded on the principles of innovation, and understanding that history allows us to move into a future bright with the promise of endless technological advances. Through your organization's work, we can shine a spotlight on the world of research and development, and ensure that great innovations are recognized and celebrated.

As our Museum preserves, protects, and honors the nation's historic treasures, the members and institutions of the National Academy of Inventors are creating the treasures of tomorrow. Thank you for your contributions to innovation and research and your commitment to inventing the future.

Sincerely,

John L. Gray

SMITHSONIAN INSTITUTION
National Museum of American History, Behring Center
14th Street and Constitution Avenue NW Room 5112
MRC 622
PO Box 37012
Washington, DC 20013-7012
202.633.3435 Telephone
202.633-4717 Fax



Distinguished Colleagues:

It is my pleasure to welcome you to the third annual meeting of the National Academy of Inventors (NAI), held this year for the first time at the United States Patent and Trademark Office (USPTO). Our Charter Member Institutions are together again, meeting new members and reconnecting with colleagues from previous years. Our time together sets the stage for our continued growth and future as an organization. We are grateful to our sponsors and host institutions for their support in making this conference possible.

We are pleased to welcome both member and non-member participants to the conference. Founded in 2010, the NAI is a 501(c)(3) non-profit member organization comprised of U.S. and international universities, and governmental and non-profit research institutions, with over 3,000 individual inventor members and Fellows spanning more than 200 institutions, and growing rapidly. We thank our Charter Member Institutions for their vision and willingness to be early leaders in our young organization. We congratulate our members for your accomplishments in contributing innovative technology within your areas of expertise.

This conference, open to all academic and non-profit research institutes, brings together the research community to deliberate on the translation of science and technology within the academic community and for the benefit of society. We thank all of our presenters, panelists, co-chairs, and the conference program committee. We are delighted to welcome Dr. Stephen R. Quake as our keynote speaker on Thursday, and look forward to hearing his insights on innovation.

We are honored to have Andrew Faile, U.S. Deputy Commissioner for Patent Operations, as our keynote speaker and to induct our NAI Fellows on Friday. We greatly value the strong relationship between the NAI and the USPTO. In addition to a number of initiatives on which we are collaborating, the USPTO contributes an article to every issue of our quarterly journal, *Technology and Innovation – Proceedings of the National Academy of Inventors*. Invited papers from this conference will be published in our journal, now in its fifth year.

This conference marks a special milestone in our growth as an organization, as we induct our second class of NAI Fellows. Our distinguished Fellows Selection Committee has confirmed 143 innovators to NAI Fellow status, representing 94 prestigious research universities and non-profit research institutes. Collectively, the new Fellows hold more than 5,600 U.S. patents.

Included in the 2013 class are 26 presidents and senior leadership of research universities and non-profit research institutes, 69 members of the National Academies (National Academy of Science, National Academy of Engineering, Institute of Medicine), five inductees of the National Inventors Hall of Fame, six recipients of the U.S. National Medal of Technology and Innovation, two recipients of the U.S. National Medal of Science, nine Nobel Laureates, five Lemelson-MIT prize recipients, and 23 AAAS Fellows, among other awards and distinctions.

The NAI is intended to be an arena where innovation and entrepreneurship leading to local and national economic development is recognized, honored and cultivated in the academic world. We applaud the efforts of our Charter Member Institutions and our inventor members. We are growing rapidly and look forward to an exciting 2014. We appreciate your participation in the National Academy of Inventors and thank you for being part of our third annual conference.

Sincerely,

Paul R. Sanberg, Ph.D., D.Sc.
President



SUMMARY AGENDA

Wednesday, March 5, 2014

- 5:00 – 9:00 PM Early Conference Check-in
- 5:00 – 7:00 PM NAI Board of Directors Meeting (Invitation Only)
- 7:00 – 9:00 PM NAI President's Opening Reception (All Invited to Attend)

Thursday, March 6, 2014

- 8:00 AM – 4:30 PM Conference Check-in
- 9:00 – 9:15 AM Opening General Session
- 9:15 – 10:15 AM Session A: Transformative Invention
- 10:15 – 11:15 AM Panel 1: Creating a Pipeline for the Next Generation of Inventors
- 11:15 – 11:45 AM State of the Academy Address by NAI President Paul R. Sanberg
- 11:45 AM – 12:15 PM Break
- 12:15 – 1:45 PM Luncheon featuring Keynote Address by Stephen R. Quake, Lee Otterson Professor, Stanford University
- 1:45 – 2:15 PM Break
- 2:15 – 3:15 PM Panel 2: Innovation Leadership in Academia
- 3:15 – 3:45 PM Session B: From Discovery to Commercialization
- 3:45 – 4:30 PM Panel 3: University Start-ups: What's New in Creation & Funding
- 4:30 – 7:00 PM Break
- 7:00 – 9:00 PM Signature Event: "Night at the Museum" Reception
Smithsonian's National Museum of American History – Flag Hall

Friday, March 7, 2014

- 8:00 AM – 1:00 PM Conference Check-in
- 7:30 – 9:00 AM *Technology and Innovation* Editorial Board Annual Breakfast (Invitation Only)
- 9:00 AM – 9:15 AM Opening General Session
- 9:15 – 10:15 AM Panel 4: Meaningful University Policies & Metrics in Tech Transfer
- 10:15 – 11:30 AM Session C: Innovation, Entrepreneurship and Economic Growth
- 11:30 AM – 12:00 PM Break: Group Photograph
- 12:00 – 1:30 PM Luncheon featuring Keynote Address by Andrew Faile, U.S. Deputy Commissioner for Patent Operations
United States Patent and Trademark Office
- 1:30 – 4:00 PM Induction of NAI Fellows by Andrew Faile
- 4:00 PM Conference Ends
- 4:00 – 6:00 PM NAI Fellows Reception (Invitation Only)

DETAILED AGENDA

WEDNESDAY, MARCH 5, 2014

- 5:00 – 9:00 PM Early Conference Check-in
Location: Atrium in front of the Wright Room, The Westin Alexandria
400 Courthouse Square, Alexandria, VA 22314-5700
- 5:00 – 7:00 PM NAI Board of Directors Meeting (Invitation Only)
Location: The Hopkins Boardroom, The Westin Alexandria
- 7:00 – 9:00 PM **NAI President's Opening Reception (All Invited to Attend)**
(Casual Dinner Provided)
Location: The Wright Room, The Westin Alexandria

THURSDAY, MARCH 6, 2014

Public WiFi is available at the USPTO. Choose "Public Network" and accept the Terms & Condition. No password needed.

- 8:00 AM – 4:30 PM Conference Check-In and Information Table
Location: Lower Atrium, U.S. Patent and Trademark Office
Madison Building, 600 Dulany Street, Alexandria, VA 22314 (Map in bag)
- 9:00 – 9:15 AM Opening General Session
Location: The Auditorium

9:15 – 10:15 AM SESSION A: TRANSFORMATIVE INVENTION

Session Co-Chairs:
Elizabeth L. Dougherty, United States Patent and Trademark Office
Leonard Polizzotto, Draper Laboratory

- A-1 9:15 – 9:30 AM **Yolanda L. Comedy**, American Association for the Advancement of Science
Invention: The Invisible Hero
- A-2 9:30 – 9:45 AM **Kurt H. Becker**, Polytechnic Institute of New York University
Powerbridgeny – A Cleantech Proof-of-Concept Center
- A-3 9:45 – 10:00 AM **Joseph C. Salamone**, University of Massachusetts Lowell
Innovation in Biomedical Materials
- A-4 10:00 – 10:15 AM **Jerome J. Cuomo**, North Carolina State University
A Patent that Should Not Have Been: It's a Wonderful Life

10:15 – 11:15 PANEL 1: CREATING A PIPELINE FOR THE NEXT GENERATION OF INVENTORS

- 10:15 – 11:15 AM **Invited Panel hosted by The Lemelson Foundation**
Moderator:
Carol Dahl, The Lemelson Foundation
Panelists:
Angela Belcher, Massachusetts Institute of Technology
David Coronado, Oregon MESA at Portland State University
Josh Schuler, Lemelson-MIT Program
Lynn Andrea Stein, Olin College
- 11:15 – 11:45 AM **State of the Academy Address**
Paul R. Sanberg, National Academy of Inventors
- 11:45 AM – 12:15 PM Break

	12:15 – 1:45 PM	KEYNOTE LUNCHEON
	12:15 – 12:45 PM	Luncheon Served (Buffet)
	12:45 – 1:00 PM	Introduction of the Keynote Speaker Arthur Molella , Smithsonian's Lemelson Center for the Study of Invention and Innovation
	1:00 – 1:45 PM	Keynote Address <i>Single Cell Genomics</i> Stephen R. Quake , Stanford University Lee Otterson Professor of Bioengineering and Applied Physics Investigator, Howard Hughes Medical Institute
	1:45 – 2:15 PM	Break
	2:15 – 3:15 PM	PANEL 2: INNOVATION LEADERSHIP IN ACADEMIA
	2:15 – 3:15 PM	Invited Panel of Senior University Leadership Moderator: John Weete , Auburn University Panelists: Spiros Dimolitsas , Georgetown University Henry C. Foley , University of Missouri System Vistasp Karbhari , The University of Texas at Arlington Santa J. Ono , University of Cincinnati Thomas N. Parks , The University of Utah
	3:15 – 3:45 PM	SESSION B: FROM DISCOVERY TO COMMERCIALIZATION
		Session Co-Chairs: Carolyn L. Cason , The University of Texas at Arlington Louis Lieto , Wilson Sonsini Goodrich & Rosati
B-1	3:15 – 3:30 PM	Steven P. DenBaars , University of California, Santa Barbara <i>Technology and Innovation in the Development of Solid State Lighting</i>
B-2	3:30 – 3:45 PM	Gholam A. Peyman , The University of Arizona and Tulane University <i>The Road to the Discovery of Intraocular Drug Delivery and Lasik Surgery</i>
	3:45 – 4:30 PM	PANEL 3: UNIVERSITY START-UPS: WHAT'S NEW IN CREATION & FUNDING
	3:45 – 4:30 PM	Invited Panel hosted by the National Council of Entrepreneurial Tech Transfer Moderator: Tony Stanco , National Council of Entrepreneurial Tech Transfer Panelists: Steven J. Kubisen , The George Washington University Mark Levine , Core Capital Joel Marquis , University of Maryland Claudia Stewart , Georgetown University
	4:30 – 7:00 PM	Break

**Buses will leave the front entrance of The Westin Alexandria for the Smithsonian at 6:30 PM.
Buses will leave the Smithsonian for the hotel after the event at approximately 9:00 PM.**

7:00 – 9:00 PM

EVENING RECEPTION

Signature Event: “Night at the Museum” Reception

Smithsonian’s National Museum of American History – Flag Hall

14th St. and Constitution Ave., NW, Washington, D.C. 20013 (Map in bag)

(Plated dinner provided, dress is business attire)

Master of Ceremonies:

Paul R. Sanberg, President, National Academy of Inventors

Host Remarks by:

John Gray, Director, Smithsonian’s National Museum of American History

Judy Genshaft, President, University of South Florida System

Leo M. Chalupa, Vice President for Research, The George Washington University

Howard J. Federoff, Executive Vice President, Georgetown University

Carol Dahl, Executive Director, The Lemelson Foundation

Arthur Molella, Jerome and Dorothy Lemelson Director, Smithsonian’s Lemelson Center for the Study of Invention and Innovation

Places of Invention

Presentation by:

Monica M. Smith, Smithsonian’s Lemelson Center for the Study of Invention and Innovation

FRIDAY, MARCH 7, 2014

8:00 AM – 1:00 PM

Conference Check-in and Information Table

Location: Lower Atrium of the U.S. Patent and Trademark Office, Madison Building

7:30 – 9:00 AM

Technology & Innovation Editorial Board Breakfast & Meeting (Invitation Only)

Location: The Westin Alexandria, Room Edison B

9:00 – 9:15 AM

Opening General Session

9:15 – 10:15 AM

PANEL 4: MEANINGFUL UNIVERSITY POLICIES & METRICS IN TECH TRANSFER

9:15 – 10:15 AM

Panel Hosted by the National Academy of Inventors

Moderator:

Valerie L. McDevitt, University of South Florida and AUTM

Panelists:

Michael Batalia, Wake Forest University

Louis P. Berneman, Texelerate, LLC

Tillman U. Gerngross, Dartmouth College

David Winwood, The University of Alabama at Birmingham

10:15 – 11:30 AM

SESSION C: INNOVATION, ENTREPRENEURSHIP AND ECONOMIC GROWTH

Session Co-Chairs:

Curtis R. Carlson, SRI International

James Rankin, University of Arkansas

C-1 10:15 – 10:30 AM

Jerry M. Woodall, University of California, Davis

The Trials and Tribulations of Moving Disruptive Alternative Energy Technology to Market

C-2 10:30 – 10:45 AM

Mark A. Burns, University of Michigan

MCubed: Real-Time Seed Funding Distribution without Formal Peer Review

C-3 10:45 – 11:00 AM

Jay S. Walker, TEDMED, LLC

Cooperation vs. The Blame Game: Unleashing American Ingenuity

C-4	11:00 – 11:15 AM	Joseph M. DeSimone , The University of North Carolina at Chapel Hill <i>From Basic Science to New Approaches in Manufacturing</i>
C-5	11:15 – 11:30 AM	Cato T. Laurencin , University of Connecticut <i>New Technologies through Regenerative Engineering</i>
	11:30 AM – 12:00 PM	Break: Group Photograph
	12:00 – 1:30 PM	KEYNOTE LUNCHEON
	12:00 – 12:30 PM	Lunch Served (Plated)
	12:45 – 1:00 PM	Introduction of the Keynote Speaker Elizabeth L. Dougherty , United States Patent and Trademark Office
	12:45 – 1:30 PM	Keynote Address Andrew Faile , United States Patent and Trademark Office U.S. Deputy Commissioner for Patent Operations
	1:30 – 4:00 PM	FELLOWS INDUCTION CEREMONY
		Induction by Andrew Faile
		Announced by Richard Maulsby Innovation Development Specialist, United States Patent and Trademark Office
	4:00 PM	Conference Ends
	4:00 – 6:00 PM	NAI Fellows Reception (Invitation Only) Location: The Global Intellectual Property Academy, Main Level, United States Patent and Trademark Office

ABOUT THE NATIONAL ACADEMY OF INVENTORS

The National Academy of Inventors is a 501(c)(3) non-profit member organization comprised of U.S. and international universities, and governmental and non-profit research institutions, with over 3,000 individual inventor members and Fellows spanning more than 200 institutions, and growing rapidly. It was founded in 2010 to recognize and encourage inventors with patents issued from the United States Patent and Trademark Office, enhance the visibility of academic technology and innovation, encourage the disclosure of intellectual property, educate and mentor innovative students, and translate the inventions of its members to benefit society. The NAI edits the multidisciplinary journal, *Technology and Innovation – Proceedings of the National Academy of Inventors*, published by Cognizant Communication Corporation (NY). www.academyofinventors.org

• GOALS AND OBJECTIVES •

- To recognize publicly a cadre of investigators who are also inventors.
- To enhance visibility of university and non-profit research institution technology development, promote entrepreneurship and be advocates for academic innovation.
- To be a resource to facilitate greater industry research contracts and interactions with companies and organizations in order to increase economic impact.
- To increase awareness of intellectual property by mentoring, fostering and encouraging faculty, staff and students to develop their intellectual property and inventions.
- To help shape society by being in a position to understand the translational use of inventions at the university or research institute and elsewhere; and to be a role model in such endeavors for students.
- To develop relevant invention-based activities for our members and affiliates.

As the Academy grows and develops, we will continue to seek new ways to recognize and honor academic invention, provide unique opportunities for our Member Institutions, and build strong relationships with innovative groups and companies. There is no doubt that translational technology is critically important; it is the engine that will drive the economies of the 21st century. Our research institutions are growing and through their capabilities, we see a limitless future for our nation and the world.

*“Imagination is more important than knowledge,
for imagination embraces the world.” - Albert Einstein*

2014 NAI Board of Directors and Officers

Paul R. Sanberg, President, University of South Florida
George R. Newkome, Vice President, The University of Akron
Howard J. Federoff, Vice President, Georgetown University
Nasser Arshadi, Secretary, University of Missouri–St. Louis
Sudeep Sarkar, Treasurer, University of South Florida
Rathindra N. Bose, University of Houston
Eric R. Fossum, Dartmouth College
Arlene A. Garrison, Oak Ridge Associated Universities
Mory Gharib, California Institute of Technology
Arthur Molella, Smithsonian’s Lemelson Center for the Study of Invention and Innovation
Vinit Nijhawan, Boston University
John D. Weete, Auburn University

2014 Conference Program Committee

Jeff Amerine, University of Arkansas
Kevin Boberg, New Mexico State University
Almesha Campbell, Jackson State University
Carolyn L. Cason, The University of Texas at Arlington
Vimal Chaitanya, New Mexico State University
Howard J. Federoff, Georgetown University, NAI Vice President
Eric R. Fossum, Dartmouth College, NAI Charter Fellow
Vikki Hazelwood, Stevens Institute of Technology
Steven Kubisen, The George Washington University
Arthur Molella, Smithsonian’s Lemelson Center for the Study of Invention and Innovation
George R. Newkome, The University of Akron, NAI Vice President
Vinit Nijhawan, Boston University
Sethuraman Panchanathan, Arizona State University
Paul R. Sanberg, University of South Florida, NAI President
Sudeep Sarkar, University of South Florida
Kate Wiley, Smithsonian’s Lemelson Center for the Study of Invention and Innovation

NATIONAL ACADEMY OF INVENTORS

2013 NAI FELLOWS

Honoring 143 academic luminaries of innovation and invention

To be inducted as NAI Fellows by the Deputy U.S. Commissioner for Patents,
at the NAI Annual Conference, March 7, 2014

Patrick Aebischer • *École Polytechnique Fédérale de Lausanne*
Rakesh Agrawal • *Purdue University*
Dimitris Anastassiou • *Columbia University*
David E. Aspnos • *North Carolina State University*
Michael Bass • *University of Central Florida*
David J. Bayless • *Ohio University*
Kurt H. Becker • *New York University*
Carolyn R. Bertozzi • *University of California, Berkeley*
Rathindra N. Bose • *University of Houston*
David E. Briles • *The University of Alabama at Birmingham*
Richard D. Bucholz • *Saint Louis University*
Mark A. Burns • *University of Michigan*
Anne K. Camper • *Montana State University*
Lisa A. Cannon-Albright • *The University of Utah*
Charles R. Cantor • *Boston University*
Dennis A. Carson • *University of California, San Diego*
Carolyn L. Cason • *The University of Texas at Arlington*
David M. Center • *Boston University*
Vinton G. Cerf • *National Science Foundation*
Stephen Y. Chou • *Princeton University*
Christos Christodoulatos • *Stevens Institute of Technology*
Benjamin Chu • *Stony Brook University*
Aaron J. Ciechanover • *Technion-Israel Institute of Technology*
Graeme M. Clark • *The University of Melbourne*
Leon N. Cooper • *Brown University*
Carlo M. Croce • *The Ohio State University*
William W. Cruikshank • *Boston University*
Brian T. Cunningham • *University of Illinois at Urbana-Champaign*
Jerome J. Cuomo • *North Carolina State University*
Narendra Dahotre • *University of North Texas*
William S. Dalton • *H. Lee Moffitt Cancer Center*
Rathindra DasGupta • *National Science Foundation*
Paul L. DeAngelis • *The University of Oklahoma*
William F. DeGrado • *University of California, San Francisco*
Peter J. Delfyett • *University of Central Florida*
Lawrence J. DeLucas • *The University of Alabama at Birmingham*
Steven P. DenBaars • *University of California, Santa Barbara*
Joseph M. DeSimone • *The University of North Carolina at Chapel Hill*
Spiros S. Dimolitsas • *Georgetown University*
Michael P. Doyle • *The University of Georgia*
James A. Dumesic • *University of Wisconsin-Madison*
David A. Edwards • *Harvard University*
T. Taylor Eighthy • *The University of Tennessee, Knoxville*
John G. Elias • *University of Delaware*
Ronald L. Eisenbaumer • *The University of Texas at Arlington*
Todd S. Emrick • *University of Massachusetts Amherst*
Liang-Shih Fan • *The Ohio State University*
Nariman Farvardin • *Stevens Institute of Technology*
Henry C. Foley • *University of Missouri System*
Ophir Frieder • *Georgetown University*
Fred H. Gage • *Salk Institute for Biological Studies*

Tillman U. Gerngross • *Dartmouth College*
George W. Gokel • *University of Missouri-St. Louis*
Clifford M. Gross • *University of South Florida*
Robert H. Grubbs • *California Institute of Technology*
Theodor W. Hänsch • *Max-Planck-Institut für Quantenoptik Germany*
Jeffrey H. Harwell • *The University of Oklahoma*
Jason C. Heikenfeld • *University of Cincinnati*
Benjamin S. Hsiao • *Stony Brook University*
Stephen D. H. Hsu • *Michigan State University*
Lonnie O. Ingram • *University of Florida*
Tatsuo Itoh • *University of California, Los Angeles*
S. Sitharama Iyengar • *Florida International University*
Richard Jove • *Vaccine and Gene Therapy Institute of Florida*
Biing-Hwang Juang • *Georgia Institute of Technology*
Vistasp M. Karbhari • *The University of Texas at Arlington*
Joachim B. Kohn • *Rutgers, The State University of New Jersey*
George P. Korfiatis • *Stevens Institute of Technology*
Michael R. Ladisch • *Purdue University*
David C. Larbalestier • *Florida State University*
Cato T. Laurencin • *University of Connecticut*
Kam W. Leong • *Duke University*
Frank L. Lewis • *The University of Texas at Arlington*
Ping Liang • *University of California, Riverside*
Charles M. Lieber • *Harvard University*
Stephen B. Liggett • *University of South Florida*
Dennis C. Liotta • *Emory University*
Dmitri Litvinov • *University of Houston*
Michael R. Lovell • *University of Wisconsin-Milwaukee*
Richard J. Mammone • *Rutgers, The State University of New Jersey*
Michael A. Marletta • *The Scripps Research Institute*
Edith Mathiowitz • *Brown University*
Krzysztof Matyjaszewski • *Carnegie Mellon University*
Constantinos Mavroidis • *Northeastern University*
Robert M. Metcalfe • *The University of Texas at Austin*
Gary K. Michelson • *Twenty Million Minds Foundation*
Robert H. Miller • *Case Western Reserve University*
Chad A. Mirkin • *Northwestern University*
Samir Mitragotri • *University of California, Santa Barbara*
Shanta M. Modak • *Columbia University*
Marsha A. Moses • *Harvard University*
Ferid Murad • *The George Washington University*

Hameed Naseem • *University of Arkansas*
Laura E. Niklason • *Yale University*
Santa J. Ono • *University of Cincinnati*
Sethuraman Panchanathan • *Arizona State University*
P. Hunter Peckham • *Case Western Reserve University*
Gholam A. Peyman • *Tulane University*
Glenn D. Prestwich • *The University of Utah*
Stephen R. Quake • *Stanford University*
Dabbala R. Reddy • *Carnegie Mellon University*
Zhifeng Ren • *University of Houston*
Darrell H. Reneker • *The University of Akron*
John A. Rogers • *University of Illinois at Urbana-Champaign*
Bernard Roizman • *The University of Chicago*
Arye Rosen • *Drexel University*
Joseph C. Salamone • *University of Massachusetts Lowell*
W. Mark Saltzman • *Yale University*
Yoshiaki Sato • *Kaatsu International University*
Martin Schadt • *Nanjing University*
Vern L. Schramm • *Yeshiva University*
Sudipta Seal • *University of Central Florida*
Venkat Selvamani • *University of Houston*
Wei-Heng Shih • *Drexel University*
Mary Shire • *University of Limerick, Ireland*
Henry I. Smith • *Massachusetts Institute of Technology*
George F. Smoot, III • *University of California, Berkeley*
Thomas C. Südhof • *Stanford University*
Subra Suresh • *Carnegie Mellon University*
Theodore F. Taraschi • *Thomas Jefferson University*
Arthur J. Tipton • *Southern Research Institute*
Satish S. Udpa • *Michigan State University*
Kathryn E. Uhrich • *Rutgers, The State University of New Jersey*
Akos Vertes • *The George Washington University*
Vitaly J. Vodyanoy • *Auburn University*
John N. Vournakis • *Medical University of South Carolina*
Jay S. Walker • *Cornell University*
David R. Walt • *Tufts University*
Donald P. Weeks • *University of Nebraska-Lincoln*
Sherman M. Weissman • *Yale University*
James E. West • *The Johns Hopkins University*
Wayne C. Westerman • *University of Delaware*
George M. Whitesides • *Harvard University*
H. Kumar Wickramasinghe • *University of California, Irvine*
David J. Wineland • *National Institute of Standards and Technology*
Carl T. Wittwer • *The University of Utah*
Jerry M. Woodall • *University of California, Davis*
Mark S. Wrighton • *Washington University in St. Louis*
James J. Wynne • *University of South Florida*
Ralph T. Yang • *University of Michigan*
Frederic Zenhausern • *The University of Arizona*
Shuguang Zhang • *Massachusetts Institute of Technology*
Harald zur Hausen • *German Cancer Research Center*



Collectively, the 2013 NAI Fellows hold 5,639 U.S. patents and represent 94 institutions.

• Presenter and Speaker Biographies •

FRIDAY, MARCH 7, 2014

Session A: Transformative Invention



Co-Chair

Elizabeth L. Dougherty, Director of Inventor Education, Outreach and Recognition, United States Patent and Trademark Office

Elizabeth L. Dougherty, J.D., is director of Inventor Education, Outreach, and Recognition in the Office of Innovation Development at the USPTO where she develops, implements and supervises programs that support the independent inventor community, small businesses, entrepreneurs, and the intellectual property interests of colleges and universities, and coordinates the ombudsman program for small businesses and entrepreneurs. She also supervises the development of outreach programs to women, minority and other underserved communities, and builds and maintains relationships with state and local governments to promote local programs that support invention and innovation in the U.S.



Co-Chair

Leonard Polizzotto, Vice President for Marketing and Strategic Business Development, Draper Laboratory

Leonard Polizzotto, Ph.D., is Draper Laboratory's vice president responsible for Strategic Business Development and Marketing. Reporting to the president and CEO, he is leading efforts to raise the Laboratory's profile to help capture new opportunities for sponsored research and bring the Laboratory's emerging technologies to market to benefit the public good. Prior to joining Draper Lab in 2007, Polizzotto served for six years as corporate vice president for Business Development and Marketing for SRI International, a world leader in contract R&D services. A 25-year tenure at the Polaroid Corporation preceded this, concluding with the assignment of corporate vice president for New Business Development. Between corporate experiences, Polizzotto directed the Center for the Globalization of Technology at Worcester Polytechnic Institute. He is a Charter Fellow of the National Academy of Inventors.



Presentation A-1

Invention: The Invisible Hero

Yolanda L. Comedy, Director for the Center for Advancing Science & Engineering Capacity, American Association for the Advancement of Science

Yolanda L. Comedy, Ph.D., is director of the American Association for the Advancement of Science (AAAS) Center for Advancing Science & Engineering Capacity, where she directs a number of programs, including the AAAS-Lemelson Invention Ambassadors Program. Comedy is also an independent consultant working on science, technology, engineering and mathematics (STEM) policy issues, including the STEM workforce; cybersecurity; and business strategy. She previously worked for the White House, serving as a Senior Policy Analyst for both the President's Committee of Advisors on Science and Technology and the President's Information Technology Advisory Committee; and IBM working in strategic philanthropy, governmental programs and business consulting on issues such as K-12 education reform; high-performance computing and U.S. competitiveness; and business strategy. She obtained her Ph.D. from Indiana University in political science, specializing in public policy and international development.



Presentation A-2

Powerbrigney – A Cleantech Proof-of-Concept Center

Kurt H. Becker, Vice Dean for Academic Affairs, New York University, Polytechnic School of Engineering

Kurt H. Becker, Dr. rer. nat., is known for his research into the properties of atmospheric-pressure microplasmas and their use in environmental, biological, and biomedical applications. He holds 7 U.S. patents on stable atmospheric-pressure plasmas and their application and was involved in their commercialization. Kurt Becker earned a Diplom in Physik (M.S.) and Dr. rer. nat. (Ph.D.) from the Universität des Saarlandes, Saarbrücken, Germany in 1978 and 1981, respectively. He is a Fellow of the American Physical Society and the recipient of the Dr. Eduard-Martin Prize for Excellence in Research from the Freunde der Universität des Saarlandes, the Thomas Alva Edison Patent Award, and the SASP Erwin Schrödinger Medal and he holds an honorary professorship from the Leopold Franzens Universität Innsbruck, Austria. He is currently principal investigator of a NYSERDA-funded Cleantech Proof-of-Concept Center and a co-principal investigator of the NSF-funded NYC Regional I-Corps Node. He is a 2013 Fellow of the NAI.



Presentation A-3

Innovation in Biomedical Materials

Joseph C. Salamone, Professor Emeritus, University of Massachusetts Lowell

Joseph C. Salamone, Ph.D., is Professor Emeritus of the University of Massachusetts Lowell, Adjunct Professor of Biomedical Engineering at the University of Texas at Austin and at San Antonio, Chief Scientific Officer of Rochal Industries LLP, and former vice president of Research at Bausch & Lomb. He is a member of the National Academy of Engineering and a Fellow of AIMBE, ACS, SBE, and POLY. His patents include 206 U.S. patents and (non-duplicative) U.S. patent applications and 764 international patents and applications. He is a leading pioneer in the development of novel biomaterials for ophthalmology and for wound care, having commercialized 45 products in rigid and soft contact lenses, silicone hydrogel contact lenses, contact lens care solutions and cleaners, intraocular lens materials, controlled drug delivery, and spray-on, non-stinging liquid bandages for human and veterinary use. He is actively involved in the development of cell-compatible substrates for wound healing. He is a 2013 Fellow of the NAI.



Presentation A-4

A Patent That Should Not Have Been: It's A Wonderful Life

Jerome J. Cuomo, Distinguished Research Professor,
North Carolina State University

Jerome (Jerry) J. Cuomo, Ph.D., is a Distinguished Research Professor at NCSU. He has done pioneering work in materials synthesis, process development and equipment. His work resulted in greater than 125 U.S. patents and 250 patent publications and he has authored over 350 peer-reviewed papers and co-edited three books. He joined NCSU 21 years ago after 30 years at IBM Research. With his students, he has co-founded four currently operating companies and has received two IR 100 awards. He is an AVS fellow, IEEE life-fellow, World Innovation Foundation Fellow, member of the European Academy of Science, The New York Academy of Sciences, IBM Academy of Technology, and recognized as making one of the 100 major contributions to IBM over the past 100 years for the invention of the rewritable optic disk. He is a National Medal of Technology Laureate, and member of the National Academy of Engineering. He is a 2013 Fellow of the NAI.



Moderator

Carol Dahl, Executive Director, The Lemelson Foundation

Carol Dahl, Ph.D., is executive director of The Lemelson Foundation. With a background in discovery sciences, innovation programs, and global health and development, Dahl leads the Foundation's work to use the power of invention to improve lives. The Foundation inspires and enables the next generation of inventors and invention-based enterprises to promote economic growth in the U.S., and help solve social and economic problems for the poorest populations in developing countries. Prior to joining the Foundation, Dahl served as founding director of the Global Health Discovery Program and director of staff for the Global Health Program at the Bill & Melinda Gates Foundation. Previous roles included vice president for Strategic Partnerships at Biospect Inc. (now Pathworks Diagnostics), founding director of the Office of Technology and Industrial Relations at the National Cancer Institute and program director at the National Center for Human Genome Research.



Panelist

Angela Belcher, W. M. Keck Professor of Energy, Massachusetts Institute of Technology

Angela Belcher, Ph.D., is a materials chemist with expertise in the fields of biomaterials, biomolecular materials, organic-inorganic interfaces and solid-state chemistry. Her primary research focus is evolving new materials for energy, electronics, the environment, and medicine. She received her B.S. in Creative Studies with an emphasis in biology from the University of California, Santa Barbara. She continued her education at UCSB and earned a Ph.D. in Inorganic Chemistry (1997). Following a year of postdoctoral research in electrical engineering at UCSB, Belcher joined the faculty at The University of Texas at Austin in the Department of Chemistry in 1999. She joined the faculty at MIT in 2002 and now holds the W. M. Keck Chair in Energy. In 2002, she founded the company Cambrios Technologies, Inc., and in 2007 she founded Siluria Technologies, Inc. Belcher won the 2013 Lemelson-MIT Prize and was honored as a Distinguished Chemist of the New England Institute of Chemists.



Panelist

David Coronado, Executive Director of Oregon MESA, Portland State University

David Coronado is the executive director of Oregon MESA (Math, Engineering, Science Achievement) at Portland State University. With over thirteen years in K-16 education, he has a passion for developing programs aimed at breaking cycles of poverty for disadvantaged youth. His work with the MESA program is focused on using invention education to provide students the tools and knowledge needed to empower them to solve problems in their own lives, their community and become global citizens. With a strong foundation in STEM education, he leads work in the areas of teacher professional development, family involvement, mentoring, and undergraduate retention programs. He currently sits on the subcommittee at the Oregon Museum of Science and Industry on Education and Impact in addition to being on the Board of Directors for MESA USA.



Panelist

Joshua Schuler, Executive Director, Lemelson-MIT Program

Joshua Schuler is the executive director of the Lemelson-MIT Program, a center within MIT's School of Engineering supported by The Lemelson Foundation. The Lemelson-MIT Program recognizes outstanding inventors and inspires young people to pursue creative lives and careers through invention. The program annually awards more than \$550,000 in prizes to mid-career inventors and individual graduate students and undergraduate student teams nationwide. Joshua joined in 2003 to develop InvenTeams, the program's national grants initiative designed to foster inventiveness among high school students. Junior Varsity InvenTeams, focused on cultivating inventive thinking and doing among ninth and tenth graders, will launch in early 2014. He holds a bachelor's degree from Tufts University in political science and environmental science and a master's degree in technology and policy entrepreneurship from MIT. Joshua also holds an MBA from the Collège des Ingénieurs in Paris, France.



Panelist

Lynn Andrea Stein, Professor of Computer Science and Engineering, Olin College

Lynn Andrea Stein Ph.D., is a founding faculty member of the Franklin W. Olin College of Engineering, where she is professor of Computer and Cognitive Science and associate dean and director of the Collaboratory. Stein's research, at Olin since 2000 and over the prior decade on the faculty of MIT, spans the fields of artificial intelligence, programming languages, and human-computer interaction. She is a co-author of the foundational documents of the semantic web and the "mother" of a humanoid robot and an intelligent room. Stein has been innovating in computing and engineering curriculum for more than three decades, with an emphasis on hands-on pedagogies, interactive technologies, and educational approaches that focus on student engagement. Through her work at MIT and at Olin, Stein regularly runs workshops to help stimulate curricular creativity, empower student-motivating pedagogic experimentation, and catalyze departmental and institutional change.

State of the Academy Address



Paul R. Sanberg, President, National Academy of Inventors

Paul R. Sanberg, Ph.D., D.Sc., is founder and president of the National Academy of Inventors, and senior vice president for Research & Innovation, Distinguished University Professor, and executive director of the Center of Excellence for Aging and Brain Repair at the University of South Florida. He trained at York University, the University of British Columbia, the Australian National University and Johns Hopkins University School of Medicine, among others. He has held academic positions at Ohio University, the University of Cincinnati, and Brown University. He is an inventor on 30 licensed health-related U.S. patents and 70 foreign patents. His work has been instrumental in translating new pharmaceutical and cellular therapeutics to clinical trials and commercialization for Tourette syndrome, stroke, ALS, Alzheimer's, Huntington's, and Parkinson's disease and he has significant biotech and pharmaceutical industry experience in these areas. He has approximately 600 publications, is a AAAS Fellow, a Charter Fellow of the NAI, and serves on the evaluation committee of the National Medal of Technology and Innovation.

Keynote Luncheon



Keynote Introduction

Arthur Molella, Jerome and Dorothy Lemelson Director,
Smithsonian's Lemelson Center for the Study of Invention and Innovation

Arthur Molella, Ph.D., is the Jerome and Dorothy Lemelson Director of the Smithsonian's Lemelson Center for the Study of Invention and Innovation at the National Museum of American History. He received his Ph.D. in the history of science from Cornell University. At the National Museum of American History, he has also served in various curatorial and administrative capacities. He is also senior lecturer in the Department of History of Science and Technology at Johns Hopkins University. He was head curator of the Smithsonian's Science in American Life exhibition and co-curator of the international exhibition, Nobel Voices, a celebration of the centenary of the Nobel Prize. His publications include *Inventing for the Environment* (ed. with Joyce Bedi, MIT, 2003) and *Invented Edens: Techno-Cities of the 20th Century* (with Robert Kargon, MIT, 2008). Molella currently sits on the boards of the NAI, the National Inventors Hall of Fame, and the MIT Museum.



Keynote Address

Stephen R. Quake, Lee Otterson Professor of Bioengineering and Applied Physics,
Stanford University and Investigator, Howard Hughes Medical Institute

Stephen R. Quake, D.Phil., is the Lee Otterson Professor of Bioengineering and Applied Physics at Stanford University and an investigator of the Howard Hughes Medical Institute. Quake's work has led to a number of groundbreaking inventions in personalized medicine, drug discovery and noninvasive diagnostics, among other areas. His contributions in science and technology have been internationally recognized with the Human Frontiers of Science Nakasone Prize, the Lemelson-MIT Prize, the Raymond and Beverly Sackler International Prize in Biophysics, the American Society for Microbiology Promega Biotechnology Research Award, the Royal Society of Chemistry Publishing Pioneer of Miniaturization Award, and the NIH Director's Pioneer Award. His research has led to four companies and over 100 issued U.S. patents. He is member of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. He obtained his B.S. in physics and M.S. in mathematics at Stanford University and his doctorate in theoretical physics from Oxford University as a Marshall Scholar. He is a 2013 Fellow of the NAI.

Panel 2: Innovation Leadership in Academia



Moderator

John D. Weete, Executive Director of Auburn Research and Technology Foundation,
Auburn University

John D. Weete, Ph.D., is currently the executive director of the Auburn Research and Technology Foundation (ARTF) and assistant vice president for Technology Transfer and Commercialization at Auburn University. For the non-profit ARTF, he oversees development and operations of the Auburn Research Park and the Auburn Business Incubator and, for AU, he is responsible for managing the intellectual property portfolio. Previously, Weete served as the vice president for Research and Economic Development at West Virginia University and president of the West Virginia University Research Corporation from 1998 to 2007. As vice president, he provided the institution-wide leadership for strategic planning for the research enterprise and growing the institution's research programs, including university-centers and institutes. As president of the WVU Research Corporation, he oversaw budget, personnel, and activities of the WVU Research Office relating to federal compliance, technology transfer, economic development, and sponsored programs. He served as the liaison between the university and West Virginia federal congressional delegation in Washington, D.C., and on several corporate boards in West Virginia and Texas.



Panelist

Spiros S. Dimolitsas, Senior Vice President for Research, Georgetown University

Spiros Dimolitsas, Ph.D., is senior vice president for Research and Chief Technology Officer at Georgetown University where he leads the development of innovation alliances and partnerships with industry, universities, and national laboratories. Prior to joining Georgetown in 2001, he served as associate director of the Lawrence Livermore National Laboratory, where his 2,500-person division led the engineering design of the world's largest laser facility. Prior to LLNL, he was with the Communications Satellite Corporation, United Technologies Corporation, and the Mayo Clinic. He holds a B.Sc. in Physics from Sussex University; a M.Sc. in Nuclear Engineering from Imperial and Queen Mary Colleges, London; and a Ph.D. in Electrical and Computer Engineering from Sussex University. In 1992, he received the Institute of Electrical and Electronics Engineers outstanding achievement medallion, and in 1995 was elected Fellow of the Institute. He has published more than 60 scientific papers and holds 12 patents.



Panelist

Henry C. Foley, Executive Vice President for Academic Affairs, University of Missouri System

Henry (Hank) C. Foley, Ph.D., is the Executive Vice President for Academic Affairs, Research and Economic Development at the University of Missouri System. He provides system-wide leadership for academic programs, technology-based economic development, research initiatives, student access and success, academic program review and eLearning. Previously, Foley was at Penn State for 13 years, where he most recently he served as Vice President of Research, Dean of The Graduate School at Pennsylvania State University, and President of the Penn State Research Foundation. Prior to Penn State, Foley served on the chemical engineering faculty at the University of Delaware for 14 years. Earlier he worked at American Cyanamid a world leader in refinery catalysts, and he has consulted with DuPont, Air Products, Mobil Oil, Monsanto, Engelhard Corporation and Westvaco. Foley earned a master's degree in physical chemistry from Purdue University and a doctorate in physical/inorganic chemistry from Penn State. He is a 2013 Fellow of the NAI.



Panelist

Vistasp M. Karbhari, President, The University of Texas at Arlington

Vistasp M. Karbhari, Ph.D., became president of The University of Texas at Arlington in June 2013. At UT Arlington, he holds a professorship in two disciplines: Mechanical and Aerospace Engineering and Civil Engineering. Karbhari served as provost and executive vice president for academic affairs at the University of Alabama in Huntsville from 2008-2013, after having served on the faculty at the University of California, San Diego (1995-2008) and the University of Delaware (1991-1995). Karbhari earned his bachelor's degree in civil engineering and a master's degree in structures, both from the University of Poona in India. He earned his Ph.D. from the University of Delaware for work in the area of composite materials. A prolific researcher, Karbhari is internationally renowned in the areas of processing and mechanics of composites, durability of materials, infrastructure rehabilitation, multi-threat mitigation, and structural health monitoring. He has authored or co-authored over 460 papers in journals and refereed conference proceedings, and has edited or co-edited five books. He is a fellow of ASM International, and the International Institute for Fiber-reinforced Polymers in Construction, and has received numerous awards for research, teaching and innovation. He is a 2013 Fellow of the NAI.



Panelist

Santa J. Ono, President, University of Cincinnati

Santa J. Ono, Ph.D., currently serves as the University of Cincinnati's 28th president. His research focuses on the pathogenesis of allergic inflammation in the eye and the role of the immune response in age-related macular degeneration. He co-founded iCoTherapeutics Inc., of Vancouver, Canada, which holds exclusive worldwide rights to three products related to diabetic macular edema and other sight-threatening and infectious diseases. He has served as a consultant to GlaxoSmithKline, Novartis, Johnson & Johnson, Oxagen and Santen Pharmaceuticals and currently works with Ohio Governor John Kasich on his biopharmaceutical initiative. Ono holds one U.S. patent and one provisional patent. An elected Fellow of the American Association for the Advancement of Science, the Royal Societies of Medicine & Chemistry and the American Academy of Allergy & Immunology, he also served in administrative, teaching and research positions at Emory University, Johns Hopkins School of Medicine, Harvard Medical School, the Schepens Eye Research Institute, University College London and Moorfields Eye Hospital in London. He is a 2013 Fellow of the NAI.



Panelist

Thomas N. Parks, Vice President for Research, The University of Utah

Thomas N. Parks, Ph.D., is vice president for Research, interim vice president for Technology Venture Development, and professor of Neurobiology & Anatomy at The University of Utah, where he has been a neurobiology researcher and teacher at the School of Medicine since 1978. He received his Ph.D. from Yale University. He holds four U.S. patents and was a co-founder and long-term board member of NPS Pharmaceuticals Inc. (NASDAQ: NPSP), which has developed several marketed pharmaceuticals, including two first-in-class products. He has also served as a board member or scientific advisor for several private technology companies and as a trustee or director for several non-profit organizations. He is a Charter Fellow of the National Academy of Inventors.

Session B: From Discovery to Commercialization



Co-Chair

Carolyn Cason, Vice President for Research, The University of Texas at Arlington

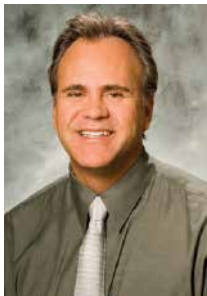
Carolyn L. Cason, Ph.D., R.N., is professor of Nursing, Distinguished Teaching Professor and Vice President for Research at The University of Texas at Arlington. She has had a distinguished career as teacher, academic leader and innovator. She is co-founder of the university's Smart Hospital—a physical/virtual facility equipped with state of the art equipment and cutting-edge patient simulators to support instruction and research and development. With colleagues in engineering, she developed Smart Care (a living laboratory dedicated to developing non-invasive, pervasive technology to monitor health changes and support independent living for the elderly and those with disabilities). Her patent for a cardiopulmonary resuscitation sensor has been commercialized as a CPR card. Clinical trials are demonstrating the life-saving effects of feedback provided via the card to those delivering CPR to victims of cardiac arrest. She is a 2013 Fellow of the NAI.



Session B Co-Chair

Louis Lieto, Associate, Wilson Sonsini Goodrich & Rosati

Louis D. Lieto, Ph.D., is an associate in the intellectual property and patent practice at Wilson Sonsini Goodrich & Rosati. He focuses on patent prosecution, strategic patent counseling, and IP due diligence in a variety of fields, including biofuels, immunotherapeutics, medical devices, pharmaceuticals, stem cells, and transgenic animals. He received his Ph.D. from the University of Kentucky, where he focused on characterizing the molecular and genetic basis of hereditary disease. Subsequently, he completed his postdoctoral fellowship in immunology at the National Institute of Allergy and Infectious Diseases (NIAID). At NIAID, he conducted research in the fields of immunology and molecular biology to examine the regulation of gene expression of human immuno-regulatory receptors. Prior to joining Wilson Sonsini Goodrich & Rosati, he was a patent examiner at the U.S. Patent and Trademark Office, where he examined applications for inventions encompassing several fields, including proteins, DNA vectors, nucleic acid vaccines, immune cell therapy, stem cell therapy, transgenic animals, and gene therapy.



Presentation B-1

Technology and Innovation in the Development of Solid State Lighting

Steven P. DenBaars, Professor of Materials, University of California, Santa Barbara

Steven P. DenBaars, Ph.D., Professor of Materials and Co-Director of the Solid-State Lighting Center at the University of California, Santa Barbara, is the Mitsubishi Chemical Chair in Solid State Lighting and Displays. DenBaars was a member of the technical staff at Hewlett-Packard involved in the growth and fabrication of visible LEDs. He received his Ph.D. in Electrical Engineering from the University of Southern California in 1988. Specific research interests include growth of GaN-based wide-band gap semiconductors, and their application to Blue LEDs and lasers and energy efficient solid state lighting. This research has led to over 650 scientific publications and 188 U.S. patents on electronic materials and devices. He has co-founded several university spin-out companies such as Nitres Inc., and Sora Inc. He has been awarded the NSF Young Investigator award, USC Distinguished Alumni Award, Young Scientist Award of the ISCS, IEEE Fellow, IEEE Aron Kressel Award, and has been elected to National Academy of Engineering. He is a 2013 Fellow of the NAI.



Presentation B-2

The Road to Discovery of Intraocular Drug Delivery and Lasik Surgery

Gholam A. Peyman, Professor Emeritus, Tulane University

Gholam A. Peyman, M.D., an Iranian-American, received his M.D. from the University of Freiburg, Germany, interned in Germany and the USA, completed his Ophthalmology residency and a Retina fellowship at the University of Essen in Essen, Germany. He became an Assistant Professor at UCLA in 1971, an Associate Professor in 1974 and a full Professor of Ophthalmology at the University of Illinois, LSU and Tulane University. He is presently Professor of Basic Medical Sciences, University of Arizona College of Medicine, Phoenix, College of Optical Sciences, UA Tucson, Emeritus Professor, Tulane University, and co-director, Arizona Retinal Specialists. Peyman invented the LASIK procedure, developed the field of intraocular drug delivery, intraocular tumor endoresection, enhanced cancer nano therapy, visual and brain cell stimulation/restoration with quantum dot/gene therapy, holds 150 U.S. patents, including the operating microscope, surgical/optical instruments, glaucoma shunt, automated A.O. phoropter, and tele-laser system. He received the National Medal of Technology and Innovation, an honorary doctorate from University of Cordoba/Argentina, ARVO Translational Award, and is a member of the Ophthalmology Hall of Fame. He has published 900 scientific articles and 10 books. He is a 2013 Fellow of the NAI.



Moderator

Tony Stanco, Executive Director, National Council of Entrepreneurial Tech Transfer

Tony Stanco, Esq., is executive director of the Angel Investors of Greater Washington and executive director of the National Council of Entrepreneurial Tech Transfer. Previously he was director of the Council of Entrepreneurial Tech Transfer and Commercialization (CET2C) of The George Washington University. Stanco was a senior attorney at the Securities and Exchange Commission, where he worked on more than two hundred IPOs. He also has worked on innovation policy, including start-up creation and funding by angel investors and VCs. At the School of Engineering and Applied Science at The George Washington University, Stanco works with universities and governments around the world on innovation policy, start-up finance policy, software policy, Open Source, cyber-security, and e-Government issues. He teaches the Lab to IPO course dealing with start-up formation and funding. He has an LL.M. from Georgetown University Law Center in securities regulation and is licensed as a lawyer in New York.



Panelist

Steven J. Kubisen, Director of the Office of Technology Transfer,
The George Washington University

Steven J. Kubisen, Ph.D., is a serial entrepreneur, corporate executive and university technology commercialization executive. He started his career in research and then moved to research management and general management for Union Carbide, Akzo Coatings, GE and Alcoa. As an entrepreneur, he was CEO of a revolutionary composites venture and a medical device venture, in addition to serving on boards of a number of early stage ventures. His passion for commercializing early technologies and growing entrepreneurial communities led him to university technology commercialization operations at Utah State University and Johns Hopkins University. At both institutions, the focus on commercializing university technology through startup formation moved each to the top of the national rankings. In 2008, Hopkins achieved the strongest startup portfolio in the nation with 12 startups and \$76M in venture capital raised. He has an A.B. in chemistry from Cornell University and a Ph.D. in organic chemistry from Harvard University.



Panelist

Mark Levine, Managing Director, Core Capital

Mark Levine joined Core Capital in 2000 when GCI Venture Partners was merged into the firm. GCI was an early stage technology venture capital fund that he founded and that was involved with such early stage companies as webMethods. Levine also managed two venture capital portfolios, Beta Ventures and Minotaur. Previously, He was a senior executive with GEO-CENTERS, a technology services firm that had over \$200 million in revenue and 1,200 employees when it was acquired by SAIC in 2002. At GEO-CENTERS, he was responsible for corporate development; government and industry relations; management of the firm's intellectual property portfolio, licenses and joint ventures; investment banking relationships; and senior executive recruitment. Prior to that, Levine was a Subcommittee Staff Director of the Small Business Committee in the U.S. House of Representatives and was involved in several successful legislative and regulatory initiatives including the Small Business Innovation Development Act and the Small Business and University Patent Act.



Panelist

Joel Marquis, Assistant Director for Venture Programs,
University of Maryland

Joel Marquis is focused on managing the daily operations and growth of the Dingman Center Angels, an investor network connecting regional startups seeking seed and early-stage funding with accredited angel investors. In addition, he supports the university's technology commercialization efforts in partnership with Office of Technology Commercialization (OTC), Mtech, and external partners in order to explore various business applications for these new technologies. Prior to joining the Dingman team, he held a wide variety of roles in finance, operations and strategy. This experience spans across firms of all sizes, from start-up to large enterprise. He started his career in investment banking, then held various corporate finance and corporate development roles. He then shifted his focus to early stage ventures which included working in a venture-backed startup in Chicago, working at an incubator in Boston and helping to run a technology-focused angel investment group in the Boston area.



Panelist

Claudia Stewart, Vice President for Technology Commercialization,
Georgetown University

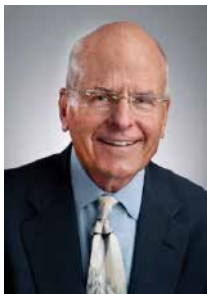
Claudia Stewart, Ph.D., is vice president of Technology Commercialization at Georgetown University. She oversees intellectual property protection and commercialization activities for the university. In her prior position she served as director of the Office of Corporate Alliances at the University of Rochester Medical Center, where she also held a position in the Office of Technology Transfer. Stewart served as vice chairperson of the High Tech Business Council of the City of Rochester's BioCluster. Prior to her work in Rochester she was vice president for Research and Operations at Redox Pharmaceutical Corporation in Greenvale, N.Y. Stewart holds a Ph.D. in microbiology and a bachelor's degree in biology from the University of Rochester.

Smithsonian Reception

Master of Ceremonies

Paul R. Sanberg, President, National Academy of Inventors

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Host Remarks

John Gray, Director, Smithsonian's National Museum of American History

John Gray was named the Elizabeth MacMillan Director of the Smithsonian's National Museum of American History on May 8, 2012, after an extensive national search. Under Gray's leadership, the museum has embarked on a dynamic strategic plan that will guide the revitalization of its 120,000 square foot west exhibition wing. Gray has a track record in transforming organizations, enlisting scholars, supporting serious research and leading successful fundraising campaigns. Commercial banking was the foundation of Gray's previous career. He served as executive vice president of First Interstate Bank of California in Los Angeles from 1987 until 1996 and worked at the Small Business Administration in Washington, D.C., for two years, 1997 to 1999. Gray has a bachelor's degree from C.W. Post College at Long Island University and a master's degree in business administration from the University of Colorado. He serves on the boards of the Global Center for Cultural Entrepreneurship in Santa Fe and Community Development Technology in Los Angeles.



Host Remarks

Judy Genshaft, President, University of South Florida System

Judy Genshaft, Ph.D., serves as the University of South Florida System president and president of the University of South Florida, a high-impact, global research university dedicated to student success. USF is a Top 50 research university among both public and private institutions nationwide in total research expenditures, according to the National Science Foundation. Serving nearly 48,000 students, the USF System has an annual budget of \$1.5 billion and an annual economic impact of \$4.4 billion. USF is a member of the American Athletic Conference.



Host Remarks

Leo M. Chalupa, Vice President for Research, The George Washington University

Leo M. Chalupa, Ph.D., is vice president for Research and professor of Pharmacology and Physiology at The George Washington University (GW) in Washington, D.C. In his role as vice president for Research, he serves as the chief executive officer responsible for all research administration at GW. Prior to joining GW in 2009, Chalupa was Distinguished Professor of Ophthalmology and Neurobiology, as well as chair of the Department of Neurobiology, Physiology and Neurobiology at the University of California, Davis. His research deals with the developmental neurobiology of the visual system, a field in which he has published more than 150 papers. His honors and awards include Fellowships in the American Association for the Advancement of Science, the Association for Psychological Science, a Guggenheim Fellowship, an NIH Fogarty International Senior Fellowship and a Japan Society for the Promotion of Science Fellowship.



Host Remarks

Howard J. Federoff, Executive Vice President for Health Sciences, Georgetown University

As executive vice president for Health Sciences at Georgetown University and executive dean of the School of Medicine, Howard J. Federoff is responsible for Georgetown University Medical Center (GUMC). He is a professor of Neurology and Neuroscience. Prior to Georgetown, he held appointments as senior associate dean; professor of Neurology, Medicine, Microbiology and Immunology; and Professor of Oncology and Genetics at the University of Rochester School of Medicine, and as founding director of the Center for Aging and Development Biology at the Aab Institute of Biomedical Sciences and founding division chief of Molecular Medicine and Gene Therapy. He is a AAAS Fellow and a Charter Fellow of the National Academy of Inventors. Federoff received M.S., Ph.D., and M.D. degrees from the Albert Einstein College of Medicine, did his internship, residency, and clinical and research fellowships at Massachusetts General Hospital/Harvard Medical School, and practiced medicine at the Albert Einstein College of Medicine and University of Rochester.

Host Remarks

Carol Dahl, Executive Director, The Lemelson Foundation

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Host Remarks

Arthur Molella, Jerome and Dorothy Lemelson Director, Smithsonian's Lemelson Center for the Study of Invention and Innovation

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Places of Invention

Monica M. Smith, Exhibition Program Manager
Smithsonian's Lemelson Center for the Study of Invention and Innovation

Monica Smith is the Exhibition Program Manager at the Smithsonian's Lemelson Center for the Study of Invention and Innovation, National Museum of American History (NMAH). She has been with the Lemelson Center since 1995. Her current primary role is Project Director and Principal Investigator for the Center's NSF-funded *Places of Invention* exhibition project. Previously, she was the Project Historian and second Project Director/PI. for the NSF-funded *Invention at Play* traveling exhibition, which won an American Association of Museum's Excellence in Exhibition award. Other NMAH projects include co-curating the popular exhibition and complementary website *From Frying Pan to Flying V: The Rise of the Electric Guitar*. She is featured in the Smithsonian Channel's award-winning film *Electrified: The Guitar Revolution*. Smith served as editor-in-chief of the *Journal of Museum Education* from 2005 to 2008, and was recently elected to the board of the Rotary Club of Washington, D.C.

FRIDAY, MARCH 7, 2014

Panel 4: Meaningful University Policies & Metrics in Tech Transfer



Moderator

Valerie L. McDevitt, Associate Vice President of Technology Transfer and Business Incubation, University of South Florida and Executive Director, Association for University Technology Managers

Valerie Landrio McDevitt, J.D., is a U.S. registered patent attorney and associate vice president for Technology Transfer and Business Incubation at the University of South Florida. Valerie is responsible for the USF Patents & Licensing office, which acts as the main university contact for industry partners and start-up companies interested in technology transfer, USF CONNECT, a network of innovation-based companies, research, business development tools, government resources and business incubation. In 2010 USF was ranked 20th among technology transfer offices in licensing revenue and 9th among universities for U.S. patents issued. During her more than ten year tenure at USF there has been significant improvement and advancement in licensing, revenue, and commercialization of early stage technology. Valerie was appointed by then Governor Crist and served on the Task Force for the study of Biotech Competitiveness and currently sits on the USPTO's Patents Public Advisory Committee and the board of the Rotary Club of Washington, D.C. She begins her new role with AUTM this month.



Panelist

Michael Batalia, Executive Director of Commercialization, Wake Forest University

Michael Batalia, Ph.D., has managed commercialization efforts at Wake Forest School of Medicine since 2004. He directs and manages intellectual property development, licensing and incubation of startup companies. Batalia spent four years at North Carolina State University, where he served as the interim associate vice chancellor and director of the Office of Technology Transfer, and, before that, as associate director, managing inventions and technology from the life sciences and physical sciences. He serves on the board of the North Carolina Biotechnology Center, and is chairman of the board of the Center of Innovation for Nanobiotechnology. Batalia has a B.A. in chemistry from The University of Chicago and a Ph.D. in biochemistry from The University of Texas at Austin.



Panelist

Louis P. Berneman, Managing Director, Texelerate, LLC

Louis Berneman, Ph.D., is fund advisor to HealthCare Royalty Partners, a \$2+ billion private equity fund purchasing interests in healthcare products. He also heads Texelerate, LLC, a technology transfer consultancy and is founding partner of Osage University Partners, a \$100 million venture fund investing in academic start-ups. Previously, Berneman was managing director of the Center for Technology Transfer at the University of Pennsylvania. He is a past president of AUTM and former vice president and trustee of LES USA & Canada. He has been active with both AUTM and LES on their respective licensing surveys. He has been involved in intellectual property licensing, business development, and entrepreneurial activities for 30+ years. Berneman has testified as an expert, at both deposition and trial in federal and state courts, on licensing issues in intellectual property litigation matters. He holds a baccalaureate degree from the Pennsylvania State University, a teaching credential from University of California, Santa Barbara, and masters and doctoral degrees from Teachers College, Columbia University.



Panelist

Tillman U. Gerngross, Professor of Bioengineering, Dartmouth College

Tillman U. Gerngross, Ph.D., is professor of Bioengineering at Dartmouth College and an active entrepreneur and innovator. He has founded several successful companies including GlycoFi, where he led the effort to humanize the glycosylation machinery in yeast to produce therapeutic proteins, with fully human carbohydrate structures. In 2006 Nature Biotechnology named Gerngross one of the most notable people in Biotechnology in the past ten years. Since 2006, Gerngross has served as a Venture Partner at SV Life Science and in 2007 he co-founded Adimab, which since has launched one of the most commercially successful antibody discovery technologies in the last decade. In 2010 Gerngross co-founded Arsanis Inc. to develop antibody based therapies for the treatment of infectious diseases. In 2012 Gerngross co-founded Avitide to address a bottleneck in the purification of protein based therapeutics. In 2013 Gerngross co-founded Alector to develop new treatment strategies for dementia and Alzheimer's-related diseases. He is a 2013 Fellow of the NAI.



Panelist

David Winwood, Chief Executive Officer, The University of Alabama at Birmingham Research Foundation

David Winwood, Ph.D., was appointed CEO of the UAB Research Foundation (UABRF) at the University of Alabama at Birmingham (UAB) in March 2008. UABRF owns and manages intellectual property created at UAB. A graduate of the University of East Anglia (B.Sc., M.Sc. and Ph.D.) and North Carolina State University (M.A.), Winwood has experience in academia and the private sector, including basic research, business development, company formation, licensing and management of university intellectual property. His experience includes senior positions and adjunct professor appointments at The Ohio State University, North Carolina State University and, currently, UAB. Winwood is vice president for Advocacy for the Association of University Technology Managers and a member of the executive committee of the Council on Governmental Relations. He has served on the executive committee of the Association of University Research Parks and as an appointed member of the Council on Competitiveness' Regional Innovation Initiative Expert Committee.



Co-Chair

Curtis R. Carlson, President and Chief Executive Officer, SRI International

Curtis R. Carlson, Ph.D., is president and CEO of SRI International, and a world authority on creating value for customers through innovation. Carlson led development of HDTV technology that became the U.S. standard and received two Emmy® Awards for technical achievement. His book with William Wilmot, *Innovation: The Five Disciplines for Creating What Customers Want*, describes how SRI's unique process for innovation can be applied to all types of government and commercial enterprises. He serves on the Scientific Advisory Board of the Singapore National Research Foundation, Innovation Leadership Council for the World Economic Forum, and National Advisory Council on Innovation and Entrepreneurship. He received a lifetime achievement award from Rutgers University and the Otto Schade Prize. He is a Charter Fellow of the National Academy of Inventors.



Co-Chair

James Rankin, Vice Provost for Research and Economic Development, University of Arkansas

James Rankin is vice provost for Research and Economic Development at the University of Arkansas (UA). He holds a faculty rank of professor in Electrical Engineering. UA is a land-grant institution with an enrollment of 25,400 students. The Carnegie Foundation classifies UA as a Very High Activity Research University. As the Chief Research Officer, the Office for Research and Sponsored Programs, Office for Research Compliance, Technology Ventures, Office for Entrepreneurship, High Performance Computing Center, Institute for Nanoscale Science and Engineering, Arkansas Center for Space and Planetary Science, and UA Press have reporting lines to him. He was previously at Ohio University where he served as interim vice president for Research, associate dean for Research and Graduate Studies in the Russ College of Engineering and Technology, and director of the Avionics Engineering Center.



Presentation C-1

The Trials and Tribulations of Moving Disruptive Alternative Energy Technology to Market

Jerry M. Woodall, Distinguished Professor of Electrical and Computer Engineering, University of California, Davis

Jerry M. Woodall, Ph.D., is Distinguished Professor of ECE at UC Davis and a National Medal of Technology Laureate. He earned a B.S. in Metallurgy from MIT and a Ph.D. in electrical engineering from Cornell University. The first part of his career was spent at IBM, where he rose to the rank of IBM Fellow. There he invented and patented many important commercial high-speed electronic and photonic devices that depend on heterojunctions. He has 370 journal publications and 80 U.S. patents. He is a member of the National Academy of Engineering and is a Fellow of the APS, IEEE, ECS, and AVS. He is a co-founder of LightSpin Technologies Inc., a high performance photo detector company, and Compound Photonics, a high performance optical projector engine company. His research is currently focused on three areas: 1) energy storage, transport, and hydrogen production; 2) very-high-efficiency photovoltaic devices; and 3) ultra-fast transistor materials and devices. He is a 2013 Fellow of the NAI.



Presentation C-2

MCubed: A Real-Time Seed Funding Distribution without Formal Peer Review

Mark A. Burns, T. C. Chang Professor of Engineering, University of Michigan

Mark A. Burns, Ph.D., is the T. C. Chang Professor of Engineering and Chair of the Chemical Engineering Department at the University of Michigan. Burns develops microfluidic and integrated systems that can be used in health-related biochemical analysis. His is best known for his pioneering work developing microfabricated devices (lab-on-a-chip) for the analysis of DNA. He is also a co-founder of MCubed, a revolutionary research seed-funding program. Burns joined the University of Michigan in 1990 after teaching at the University of Massachusetts for 4 years. He obtained his M.S. and Ph.D. in Chemical and Biochemical Engineering from the University of Pennsylvania, and his B.S. in Chemical Engineering from the University of Notre Dame. Burns has over 300 papers, book chapters, patents and conference presentations. He has won numerous awards including both a College of Engineering Research Excellence Award and a Teaching Excellence Award, and he is a Fellow of the American Institute for Medical and Biological Engineering. He is a 2013 Fellow of the NAI.



Presentation C-3

Cooperation vs. The Blame Game: Unleashing American Ingenuity

Jay S. Walker, Curator and Chairman, TEDMED, LLC

Jay S. Walker is curator and chairman of TEDMED and a longtime TED supporter. He also chairs Patent Properties Inc., a public company that leverages the patents and intellectual property developed by Walker Digital (Walker's privately held invention lab based in Stamford, Connecticut). Founder of three companies that serve more than 50 million customers each, Walker is the world's 11th most patented living inventor. He is listed as the lead inventor on 700 U.S. patents across a dozen different industries. Best known as the founder of Priceline (today a \$60 billion market cap company), Walker is also the founder and curator of the world's only Library of the History of Human Imagination. He is a 2013 Fellow of the NAI.



Presentation C-4

From Basic Science to New Approaches to Manufacturing

Joseph M. DeSimone, Chancellor's Eminent Professor of Chemistry, The University of North Carolina at Chapel Hill

Joseph M. DeSimone, Ph.D., is the Chancellor's Eminent Professor of Chemistry at The University of North Carolina at Chapel Hill, and the William R. Kenan, Jr. Professor of Chemical Engineering at NC State University and of Chemistry at UNC-CH. He is also an Adjunct Member at Memorial Sloan-Kettering Cancer Center in New York. He is a member the National Academy of Sciences (2012), National Academy of Engineering (2005), and the American Academy of Arts and Sciences (2005). DeSimone has published over 300 articles and holds over 140 patents. He has received over 50 major recognitions, including the 2012 Walston Chubb Award for Innovation by Sigma Xi, the 2010 AAAS Mentor Award in recognition of efforts to advance diversity in the chemistry Ph.D. workforce, the 2009 NIH Director's Pioneer Award, and the 2008 Lemelson-MIT Prize. DeSimone has a B.S. in Chemistry from Ursinus College (1986) and a Ph.D. in Chemistry from Virginia Tech (1990). He is a 2013 Fellow of the NAI.



Presentation C-5

New Technologies through Regenerative Engineering

Cato T. Laurencin, University Professor, University of Connecticut

Cato T. Laurencin, M.D., Ph.D., is a designated University Professor at the University of Connecticut. He is the Albert and Wilda Van Dusen Distinguished Professor of Orthopaedic Surgery and Professor of Chemical Engineering, Professor of Materials Science and Engineering, and Professor of Biomedical Engineering at the school. He serves as Director of the Institute for Regenerative Engineering, and Director of the Raymond and Beverly Sackler Center for Biomedical, Biological, Physical and Engineering Sciences at the UConn Health Center. In addition, he serves as Chief Executive Officer of the Connecticut Institute for Clinical and Translational Science at UConn. Laurencin earned a B.S.E. in chemical engineering from Princeton, his medical degree *magna cum laude* from Harvard Medical School and his Ph.D. in biochemical engineering/biotechnology from M.I.T. He is an elected member of both the Institute of Medicine of the National Academy of Sciences and the National Academy of Engineering. He is a 2013 Fellow of the NAI.

Keynote Introduction

Elizabeth L. Dougherty, Director of Inventor Education, Outreach and Recognition, United States Patent and Trademark Office

See page 11



Keynote Address and NAI Fellows Inducted by

Andrew Faile, United States Deputy Commissioner for Patent Operations, United States Patent and Trademark Office

As the Deputy Commissioner for Patent Operations, Andrew Faile is responsible for all patent examining functions in the nine Patent Technology Centers, the Office of Patent Training and the Central Reexamination Unit. He was the Assistant Deputy Commissioner for Patent Operations for the Electrical Discipline and has over 20 years of experience in patent examining and operations management. He first joined the USPTO in 1989 as a patent examiner in the areas of cellular telephony, radio frequency communications, and cable television. In 1994, he earned an examiner master's rating in telecommunications. Recently, he served on a joint management/union task force in charge of modernizing the examiner production system. He was awarded the Department of Commerce Silver Medal for his work on the task force.



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Richard Maulsby, Innovation Development Specialist, United States Patent and Trademark Office

Richard Maulsby joined the U.S. Patent and Trademark Office in 1994 and served as Director of Public Affairs until 2007. From 2007 to 2010 he was the USPTO's Senior Communication Specialist. In both of those capacities he coordinated the agency's external and internal communication programs. During his tenure he greatly expanded the USPTO's outreach to its stakeholder groups including independent inventors. In 2010 he was named Associate Commissioner for Innovation Development. In that senior leadership role he supervised new and existing programs to better serve independent, minority and women inventors and worked to establish relationships with organizations like the National Academy of Inventors. Following his retirement in 2012, he returned to the USPTO on a part-time basis to coordinate the agency's collaboration with the Smithsonian Institution to create an Innovation Pavilion on the National Mall. The Pavilion will celebrate the key role inventors and America's intellectual property system plays in our economy. Prior to joining the USPTO he worked in radio and television at stations in Buffalo, New York and Washington, D.C. He graduated from the University of Nebraska with a B.A. in Radio-TV and received a Master's Degree in Mass Communication from the State University of New York in Buffalo.

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