2014 MIT Research and Development Conference
Harnessing Global Innovation
November 19-20, 2014 • MIT Campus • ilp.mit.edu/2014/rd • #MITRD

	Day 1: November 19 at Kresge Auditorium (Building W16)
8:00	Registration and Light Breakfast
9:00	Welcome & Introduction - **Karl F. Koster**, Executive Director, MIT Office of Corporate Relations
9:10	Opening Keynote - **Karen Gleason**, Associate Provost, MIT
9:40	Harnessing Global Innovation: A Large Company's Perspective - **Larry Wendling**, VP of Corporate Research Laboratory, 3M
10:20	Break
10:45	**Executive Panel Discussion:** *Harnessing Global Innovation - Models and Contrasts* Moderated by **Jason Pontin** **Tarek Habashy**, Managing Director, Schlumberger Doll Research **Michael Idelchik**, VP of Advanced Technologies, GE Research **Melissa Monich**, VP of R&D, Procter & Gamble **Sridar Natesan,** VP Strategic Initiatives & Scientific Relations, Sanofi
12:00	Lunch and **Startup Exhibit** @ Media Lab (Building E14) 3DEO - Aerva - Akselos - Coventry Associates - Deep Web Technologies - Domeyard LP - Ecovent - Energy Compression - EyeNetra - Filter Sensing Technologies GeriJoy - GVD - Holosonics - Jisto - Kitchology - LightSail Energy - Luminoso - Salubris Analytics - Sourcewater - SQZ Biotechnologies - Vecna - Yegii

Concurrent Technology Tracks at Stratton Student Center (Building W20)

	Track 1- Sensors Everywhere: Instrumenting the World at Twenty Chimneys	Track 2 - Energy Storage and Distributed Power at Mezzanine	Track 3 - MIT Environmental Initiatives and Technologies at #407	Track 4 - Synthetic Biology/Chemistry at #491
2:00	The IoT: Sensing and Big Data for Consumer-centric, Engineering and Industrial Applications **Sanjay Sarma**	Pathways to Low-cost Stationary Electrochemical Energy Storage **Fikile Brushett**	Building an environmental initiative at MIT **Susan Solomon**	Mammalian synthetic biology: from parts to modules to therapeutic systems **Ron Weiss**
2:45	Sensing, Learning, and Inference Group **John Fisher**	Energy Innovation in the Developing World **Rob Stoner**	Water and Food Research at MIT **John Lienhard**	Engineering computation, diagnostics, and living materials with synthetic biology **Tim Lu**
3:30	Break			
4:00	Revealing the invisible with video Magnification **Fredo Durand**	Optimizing storage technologies for solar and wind energy **Jessika Trancik**	Chemical Sensors for the Water Environment **Harry Hemond**	Rapid Prototyping Tools for Engineering Complex Genetic Programs **Ben Gordon**
4:45	The Explosion of Big Data ... and the Cybersecurity of the Data **Stuart Madnick**	No Watt Left Behind: Extracting Actionable Analytics from Power Usage Data **Steve Leeb**	The Role of Efficiency in Solving the Energy Crisis **Leon Glicksman**	Analog Synthetic Biology **Rahul Sarpeshkar**
5:30	Networking Reception			

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	Day 2: November 20, 2014 at Kresge Auditorium (Building W16)
8:00	Registration and Light Breakfast
8:30	Welcome & Introduction - **Karl F. Koster**
8:35	Akamai perspective of a "grownup" startup – **Tom Leighton**, CEO, Akamai
9:05	**Startup Panel Discussion:** *Models and Perspectives on Mutual Value Creation with Corporations* Moderated by **Trond Undheim** **Andrej Danko,** Chief Software Architect, Sourcewater **Hilton Pryce Lewis,** Founder and CEO, GVD Corporation **Agustin Lopez Marquez**, Founder and CEO, SQZ Biotechnologies **Vitor Pamplona**, Co-founder and CTO, EyeNetra **Dipul Patel**, Co-Founder and CEO, Ecovent
9:45	Break

	Concurrent Technology Tracks at Stratton Student Center (Building W20)

	Track 5 – Sensors Everywhere: Instrumenting You at Twenty Chimneys	Track 6 - Carbon-based Nanotechnology at Mezzanine	Track 7 - Non-conventional Energy Sources at #491
10:00	Sensors for Tracking Behavior and Mental Health **Richard Fletcher**	GaN, Graphene and Other Extreme Materials for Future Electronics **Tomas Palacios**	Energy Technology Spinoffs From Plasma Fusion Research **Daniel Cohn**
10:45	Revolutionizing Medical Device Design **Charles Sodini**	Building Stronger Multifunctional Composites **Brian Wardle**	Emerging Insights Regarding Unconventional Oil and Gas Resource Productivity **Francis O'Sullivan**
11:30	Break		
11:45	Model-based Physiologic Monitoring: Leveraging Real-time Data and Models for Improved Clinical Inference **Thomas Heldt**	New Concepts in Molecular and Energy Transport within Carbon Nanotubes and Graphene **Michael Strano**	CO_2 reduction and reversible sequestration **Christopher Cummins**
12:30	Health-Tech Innovation **Ramesh Raskar**	Application Development for CVD Graphene and Solution Based Graphene **Jing Kong**	A Molecular Engineering Approach to Catalytic Bio-oil Upgrading **Yuriy Román**
1:15	Adjournment and Bagged Lunch		

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![MIT ILP Industrial Liaison Program logo]

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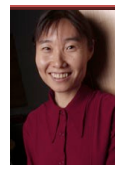November 19-20, 2014 • MIT Campus • ilp.mit.edu/2014/rd • #MITRD

Speakers

Fikile Brushett
Raymond A (1921) and Helen E St Laurent Career Development Assistant Professor of Chemical Engineering
MIT Department of Chemical Engineering

Karen Gleason
Associate Provost
Alexander and I Michael Kasser Professor of Chemical Engineering
MIT Department of Chemical Engineering

Jing Kong
ITT Career Development Associate Professor of Electrical Engineering
MIT Department of Electrical Engineering and Computer Science

Daniel Cohn
Research Scientist
Division Head, Plasma Technology and Systems Division (PSFC)
MIT Energy Initiative

Leon Glicksman
Professor of Building Technology and Mechanical Engineering
MIT Department of Architecture

Karl F. Koster
Executive Director
MIT Office of Corporate Relations/Industrial Liaison Program

Christopher Cummins
Professor of Chemistry
MIT Department of Chemistry

Ben Gordon
Director, MIT-Broad Foundry
MIT Department of Biological Engineering
Broad Institute Technology Labs

Steve Leeb
Professor of Mechanical and Electrical Engineering and Computer Science
MIT Department of Electrical Engineering and Computer Science

Andrej Danko
Chief Software Architect
Sourcewater

Tarek Habashy
Managing Director
Schlumberger Doll Research

Tom Leighton
Chief Executive Officer
Akamai

Fredo Durand
Professor of Computer Science and Engineering
MIT Department of Electrical Engineering and Computer Science

Thomas Heldt
Assistant Professor of Electrical Engineering and Computer Science
Hermann von Helmholtz Career Development Assistant Professor
Principal Investigator, Research Laboratory of Electronics (RLE)
MIT Department of Electrical Engineering and Computer Science

Hilton Pryce Lewis
Founder and CEO
GVD Corporation

John Fisher
Principal Research Scientist
MIT Computer Science and Artificial Intelligence Laboratory

Harold Hemond
William E Leonhard (1940) Professor of Civil and Environmental Engineering
Leader, Environmental Systems Group
MIT Department of Civil and Environmental Engineering

John Lienhard
Samuel C. Collins Professor of Mechanical Engineering
Director, KFUPM Center for Clean Water and Clean Energy
Director, Rohsenow Kendall Heat Transfer Laboratory
MIT Department of Mechanical Engineering

Richard Fletcher
Research Scientist
MIT Development Through Dialogue, Design and Dissemination

Michael Idelchik
Vice President, Advanced Technologies
GE Global Research

Timothy Lu
Assistant Professor of Electrical Engineering and Computer Science
MIT Department of Electrical Engineering and Computer Science

* All schedule and speakers are subject to change without notice. (v. 11.7.14)

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Stuart Madnick

*John Norris Maguire (1960)
Professor of Information Technology
and Engineering Systems
Co-Director, PROFIT Program
MIT Sloan School of Management*

Jason Pontin

*Editor-in-Chief and Publisher
MIT Technology Review
Chairman, MIT Enterprise Forum*

Michael Strano

*Professor of Chemical Engineering
MIT Department of Chemical
Engineering*

Agustin Lopez Marquez

*Founder and CEO
SQZ Biotechnologies*

Ramesh Raskar

*Associate Professor of Media Arts
and Sciences
Head, Camera Culture Group
MIT Media Lab*

Jessika Trancik

*Atlantic Richfield Career
Development Assistant Professor in
Energy Studies
MIT Engineering Systems Division*

Melissa Monich

*Vice President Research &
Development, Gillette, Male
Grooming, Braun, global Devices
Procter & Gamble*

Yuriy Román

*Assistant Professor in Chemical
Engineering
MIT Department of Chemical
Engineering*

Trond Undheim

*Senior Lecturer, MIT Sloan School of
Management
Founder, Yegii, Inc.
Senior Industrial Liaison Officer & Lead,
Startup Initiative
MIT Industrial Liaison Program*

Sridaran Natesan

*Vice President, Strategic Initiatives
& Science Relations (North
America)
Sanofi*

Sanjay Sarma

*Fred Fort Flowers (1941) and Daniel
Forst Flowers (1941) Professor of
Mechanical Engineering
Director, Office of Digital Learning (ODL)
Director, MIT/SUTD Collaboration Office
Margaret MacVicar Faculty Fellow
MIT Office of the Provost*

Brian Wardle

*Associate Professor of Aeronautics and
Astronautics
Director, Nano-Engineered Composite
Aerospace Structures (NECST)
Consortium
MIT Department of Aeronautics and
Astronautics*

Francis O'Sullivan

*Director of Research and Analytics
(MITEI)
MIT Energy Initiative*

Rahul Sarpeshkar

*Associate Professor of Electrical
Engineering
MIT Department of Electrical
Engineering and Computer Science*

Ron Weiss

*Professor of Biological Engineering
Director, MIT Synthetic Biology Center
MIT Department of Electrical Engineering
and Computer Science*

Tomás Palacios

*Emmanuel Landsman CD Associate
Professor of Electrical Engineering
MIT Department of Electrical
Engineering and Computer Science*

Charles Sodini

*Clarence J LeBel Professor of
Electrical Engineering
MIT Department of Electrical
Engineering and Computer Science*

Larry Wendling

*Vice President
Corporate Research Laboratory
3M*

Vitor Pamplona

*Co-Founder and CTO
EyeNetra*

Susan Solomon

*Ellen Swallow Richards (1873) Professor
of Atmospheric Chemistry and Climate
Change
MIT Department of Earth, Atmospheric,
and Planetary Sciences*

Dipul Patel

*Co-Founder and CEO
Ecovent*

Robert Stoner

*Deputy Director for Science and
Technology
Co-Director, Tata Center for
Technology and Design
MIT Energy Initiative*

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