

# MIT Industrial Liaison Program Faculty Knowledgebase Report

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2022 MIT Bangkok Symposium

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December 8, 2022 9:00 am - 5:00  
pm

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8:00 AM – 9:00 AM

Registration

9:00 AM – 9:20 AM

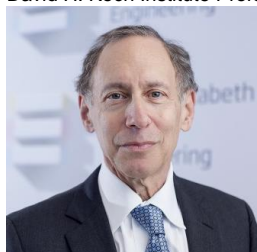
Welcome Remarks

9:20 AM – 10:00 AM

Keynote Talk (Remote)

Robert Langer

David H. Koch Institute Professor, [MIT Biological Engineering](#)



Robert Langer

David H. Koch Institute Professor

[MIT Biological Engineering](#)

Robert S. Langer completed his undergraduate studies in Chemical Engineering at Cornell University and obtained his Sc.D in Chemical Engineering at MIT. He joined MIT as Assistant Professor of Nutritional Biochemistry in 1978. Dr. Langer has written over 1,250 articles and also has nearly 1,050 patents worldwide. Dr. Langer's patents have been licensed or sublicensed to over 250 pharmaceutical, chemical, biotechnology and medical device companies.

Dr. Langer has received over 220 major awards. He is one of 5 living individuals to have received both the United States National Medal of Science (2006) and the United States National Medal of Technology and Innovation (2011). He also received the 2002 Charles Stark Draper Prize, considered the equivalent of the Nobel Prize for engineers, the 2008 Millennium Prize, the world's largest technology prize, the 2012 Priestley Medal, the highest award of the American Chemical Society, the 2013 Wolf Prize in Chemistry, the 2014 Breakthrough Prize in Life Sciences and the 2014 Kyoto Prize. He is the also the only engineer to receive the Gairdner Foundation International Award; 82 recipients of this award have subsequently received a Nobel Prize. Among numerous other awards Langer has received are the Dickson Prize for Science (2002), Heinz Award for Technology, Economy and Employment (2003), the Harvey Prize (2003), the John Fritz Award (2003) (given previously to inventors such as Thomas Edison and Orville Wright), the General Motors Kettering Prize for Cancer Research (2004), the Dan David Prize in Materials Science (2005), the Albany Medical Center Prize in Medicine and Biomedical Research (2005), the largest prize in the U.S. for medical research, induction into the National Inventors Hall of Fame (2006), the Max Planck Research Award (2008), the Prince of Asturias Award for Technical and Scientific Research (2008), the Warren Alpert Foundation Prize (2011) and the Terumo International Prize (2012). In 1998, he received the Lemelson-MIT prize, the world's largest prize for invention for being "one of history's most prolific inventors in medicine." In 1989 Dr. Langer was elected to the Institute of Medicine of the National Academy of Sciences, and in 1992 he was elected to both the National Academy of Engineering and to the National Academy of Sciences, and in 2012 he was elected to the National Academy of Inventors.

[View full bio](#)

10:00 AM – 10:30 AM

Networking Break

Faculty Talk #1: The Harm When Health Data is Not Shared  
Leo Anthony Celi MD MS MPH  
Associate Professor, Harvard Medical School (Part Time)  
Instructor, Department of Biostatistics, Harvard T.H. Chan School of Public Health  
Staff Intensivist, Beth Israel Deaconess Medical Center  
Principal Research Scientist, [Institute for Medical Engineering and Science](#)



Leo Anthony Celi MD MS MPH  
Associate Professor, Harvard Medical School (Part Time)  
Instructor, Department of Biostatistics, Harvard T.H. Chan School of Public Health  
Staff Intensivist, Beth Israel Deaconess Medical Center  
Principal Research Scientist  
[Institute for Medical Engineering and Science](#)

Leo Anthony Celi has practiced medicine in three continents, giving him broad perspectives in healthcare delivery. As clinical research director and principal research scientist at MIT [Laboratory of Computational Physiology](#) (LCP), he brings together clinicians and data scientists to support research using data routinely collected in the intensive care unit (ICU). His group built and maintains the Medical Information Mart for Intensive Care (MIMIC) database. This public-access database has been meticulously de-identified and is freely shared online with the research community. It is an unparalleled research resource; over 2000 investigators from more than 30 countries have free access to the clinical data under a data use agreement. In 2016, LCP partnered with Philips eICU Research Institute to host the eICU database with more than 2 million ICU patients admitted across the United States. The goal is to scale the database globally and build an international collaborative research community around health data analytics.

Leo founded and co-directs [Sana](#), a cross-disciplinary organization based at the Institute for Medical Engineering and Science at MIT, whose objective is to leverage information technology to improve health outcomes in low- and middle-income countries. At its core is an open-source mobile tele-health platform that allows for capture, transmission, and archiving of complex medical data (e.g. images, videos, physiologic signals such as ECG, EEG and oto-acoustic emission responses), in addition to patient demographic and clinical information. Sana is the inaugural recipient of both the mHealth (Mobile Health) Alliance Award from the United Nations Foundation and the Wireless Innovation Award from the Vodafone Foundation in 2010. The software has since been implemented around the globe including India, Kenya, Lebanon, Haiti, Mongolia, Uganda, Brazil, Ethiopia, Argentina, and South Africa.

He is one of the course directors for HST.936—global health informatics to improve quality of care, and HST.953—secondary analysis of electronic health records, both at MIT. He is an editor of the textbook for each course, both released under an open access license. The textbook [Secondary Analysis of Electronic Health Records](#) came out in October 2016 and was downloaded over 48,000 times in the first two months of publication. The course "[Global Health Informatics to Improve Quality of Care](#)" was launched under MITx in February 2017.

Leo was featured as a designer in the Smithsonian Museum National Design Triennial "Why Design Now?" held at the Cooper-Hewitt Museum in New York City in 2010 for his work in global health informatics. He was also selected as one of 12 external reviewers for the National Academy of Medicine 2014 report "Investing in Global Health Systems: Sustaining gains, transforming lives."

11:10 AM – 12:00 PM

MIT Startup Exchange Lightning Talks

Thanos Kosmidis  
Co-founder & CEO  
[CareAcross](#)

Daniel Oliver  
CEO and Co-Founder  
[Rejuvenate Bio](#)

Hermano Igo Krebs  
Founder  
[4Motion Robotics](#)

Ben Merewitz  
Co-Founder & CEO  
[Agile Devices](#)

12:00 PM – 13:15 PM

Lunch with Startup Exhibit

13:15 PM – 13:55 PM

Faculty Talk #2: Hacking Medicine  
Zen Chu

Co-Founder and Faculty Director, [MIT Hacking Medicine](#)  
Senior Lecturer, [MIT Sloan School of Management](#)



Zen Chu

Co-Founder and Faculty Director, [MIT Hacking Medicine](#)  
Senior Lecturer, [MIT Sloan School of Management](#)

Zen Chu serves as Faculty Director of MIT's [Hacking Medicine Initiative](#), and is a Senior Lecturer in Healthcare Innovation for both the MIT Sloan School of Management and Harvard-MIT Health Sciences & Technology program.

In partnership with Professors Martha Gray and Bill Aulet, Zen created and directs HST.978 MIT Healthcare Ventures, a graduate course that teaches entrepreneurship, business models, and venture creation around technology that can transform healthcare. Zen actively consults companies in pharma, health tech, and healthcare systems struggling to adapt to global digital healthcare transformation and emerging markets.

As managing director of [Accelerated Medical Ventures](#), Zen specializes in building early-stage medical technology and healthcare service companies, usually serving as cofounder and first investor. AMV's portfolio spans Boston, Silicon Valley, and China, including [PillPack.com](#), [Call9.com](#), [Figure1.com](#), [NuRx.com](#), [3D-Matrix Medical](#) [JASDAQ: 7777], [Sofi.com](#), Curoverse Genomics (acq Veritas Genomics), [BitGym.com](#), [DirectDermatology.com](#), and a few companies still in stealth mode.

Alongside MIT professors Shuguang Zhang, Alex Rich, Alan Grodzinsky, and Bob Langer, Zen cofounded and served as ceo for [3D-Matrix Medical Inc.](#), a venture-backed MIT regenerative medicine company with a successful IPO in 2011. 3D-Matrix has wound-healing and drug-delivery products on the market outside of the US and multiple human clinical trials in process.

He has managed and led new ventures for Harvard Medical School, Harvard's Wyss Institute for Bioengineering, NetVentures, and Hewlett-Packard. Zen earned a BS in biomedical/electrical engineering from Southern Methodist University and an MBA from Yale University. He is married to Katie Rae, a serial entrepreneur and CEO of MIT's Engine Fund. They are raising three aspiring entrepreneurs in Brookline, MA.

[View full bio](#)

13:55 PM – 14:55 PM

Industry Panel #1: The Challenges and Opportunities for New Technologies in Healthcare across Southeast Asia

Dr. Songpon Deechongkit  
MIT Alumni  
Managing Director  
[Siam Bioscience](#)

Dr. JJ Jiang  
CTO  
[Charoen Pokphand Group](#)

Thammasak Sethaudom  
Executive Vice President  
[Siam Cement Group](#)

Dr. Kobsak Pootrakool  
Director and Senior Executive Vice President  
[Bangkok Bank](#)

14:55 PM – 15:20 PM

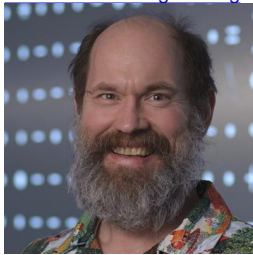
Networking Break

15:20 PM – 16:00 PM

Faculty Talk #3: Innovation in Medical Device Design

Alex Slocum

Director, Precision Engineering Research Group (PERG)  
Walter M. May (1939) and A. Hazel May Chair in Emerging Technologies, [MIT Department of Mechanical Engineering](#)



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Director, Precision Engineering Research Group (PERG)  
Walter M. May (1939) and A. Hazel May Chair in Emerging Technologies  
[MIT Department of Mechanical Engineering](#)

Alexander Slocum is the Walter and Hazel May Professor of Mechanical Engineering at MIT and a member of the US National Academy of Engineering. He has 130+ patents and has helped develop 12 products that have received R&D 100 awards for "one of the one hundred best new technical products of the year". He has helped start several successful precision manufacturing equipment companies and has a passion for working with industry to solve real problems and identify fundamental research topics. For the past decade his prime focus has been on renewable energy systems.

[View full bio](#)

16:00 PM - 17:00 PM

Industry Panel #2: The Growth of Healthcare and Investment Opportunity

Mr. Orsen Karnburisudthi  
Vice President, Investment Department  
[Bangkok Bank](#)

David Zhu  
Managing Partner  
[Kendall Capital Partners](#)

Sarayuth Saengchan, Ph.D.  
Senior Executive Vice President, Finance and Administration Group  
[Mitr Phol Sugar Corp., Ltd.](#)

Tunyawat Kasemsuwan, Ph.D.  
Group Director, Global Innovation Center  
[Thai Union Group Public Company Limited](#)

17:00 PM

Adjournment