10:00am - 10:05am  Introduction  
CJ (Changjie) Guo  
Program Director  
MIT Corporate Relations  
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Dr. CJ Guo joined the Office of Corporate Relations as a Senior Industrial Liaison Officer in July, 2015. CJ comes to OCR with 25 years of extensive global experience in technology innovations, portfolio management and business development in emerging and conventional energy sectors with leading multinational corporations in the US, China and Canada.

CJ is a leading expert in emerging energy technologies and energy system transitions. With Shell, he was the Emerging Technology Theme Leader in China/Beijing (2011 to 2015), worked extensively with the Chinese energy communities on the country's future energy landscape, and the Senior Technology Advisor in alternative transportation fuels in the US / Houston (2006-2010), and served during 2010 as Chairman of the Fuel Operations Group for the US DOE FreedomCar Partnership. Prior to joining Shell, CJ has held technology development, commercialization and management positions with Air Liquide (2002-2006) and The BOC Group (1995-2001) after working as a research scientist in oil-sands upgrading with CANMET in Canada (1992-1994).

CJ earned his Ph.D., Chemical Engineering, at CSU, Ohio, his M.S. and B.S., Chemical Engineering at TYUT, China. He has earned various awards from Shell, Air Liquide, BOC, Shanxi Province (China). He holds many patents and has sat on the board of Shenzhen Sanmu Battery Technology Company as an independent board member during 2009-2010.

10:05am - 10:30am  Energy Storage Systems  
Robert Stoner  
Deputy Director for Science and Technology  
Co-Director, Tata Center for Technology and Design  
MIT Energy Initiative  

Robert J. Stoner is an inventor and technology entrepreneur who has worked extensively in academia and industry throughout his career, having built and managed successful technology firms in the semiconductor, IT and optics industries. From 2007 through 2009 he lived and worked in Africa and India while serving in a variety of senior roles within the Clinton Foundation. Stoner also serves as co-Director of the Tata Center for Technology and Design at MIT, and is a member of the Science and Technology Committee of the Alliance for Sustainable Energy, which manages the National Renewable Energy Laboratory. His current research relates to energy technology and policy for developing countries. He earned his Bachelor's degree in engineering physics from Queen’s University, and his Ph.D. from Brown University in condensed matter physics.

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10:30am - 11:00am  
**Development of large cheap solid state batteries**  
Donald Sadoway  
John F Elliott Professor of Metallurgy  
MIT Department of Materials Science and Engineering

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John F Elliott Professor of Metallurgy  
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Donald R. Sadoway is the John F. Elliott Professor of Materials Chemistry in the Department of Materials Science and Engineering at the Massachusetts Institute of Technology. Born in Toronto, he obtained the B.A.Sc. in Engineering Science, the M.A.Sc. in Chemical Metallurgy, and the Ph.D. in Chemical Metallurgy, all from the University of Toronto. The author of over 145 scientific papers and holder of 18 U.S. patents, his research is directed towards the development of rechargeable batteries for grid-level storage and environmentally sound technologies for the extraction of metals. In 2012 he was named by Time magazine as one of the 100 Most Influential People in the World.

Professor Sadoway's research seeks to establish the scientific underpinnings for technologies that make efficient use of energy and natural resources in an environmentally sound manner. This spans engineering applications and the supportive fundamental science. The overarching theme of his work is electrochemistry in nonaqueous media. Specific topics in applied research are the following: grid-scale storage of electrical energy (colossal but affordable batteries), environmentally sound electrochemical extraction and recycling of metals, including steel, nickel, manganese, and titanium as well as ferroalloys such as ferrochromium, lithium solid-polymer-electrolyte batteries, and advanced materials for use as electrodes, separators, and walls in fused-salt electrolysis cells and batteries. Related to these are the following topics in fundamental research: the physical chemistry and electrochemistry of molten salts (including molten oxides), cryogenic electrolytes, and solid polymer electrolytes.

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11:00am - 11:30am  
**Economics of flow batteries for storing energy**  
Fikile Brushett  
Cecil and Ida Green Career Development Chair, Associate Professor of Chemical Engineering  
MIT Department of Chemical Engineering

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Cecil and Ida Green Career Development Chair, Associate Professor of Chemical Engineering  
MIT Department of Chemical Engineering

Fikile Brushett is an associate professor of chemical engineering at MIT, where he holds the Cecil and Ida Green Career Development Chair. His research focuses on advancing electrochemical technologies for a sustainable energy economy, with a particular fascination around the fundamental processes that define the performance, cost, and lifetime of present day and future electrochemical systems. Brushett holds a BSE in chemical and biomolecular engineering from the University of Pennsylvania and a PhD in chemical engineering from the University of Illinois at Urbana-Champaign. He was a postdoctoral fellow in the Electrochemical Energy Storage group at Argonne National Laboratory.

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Dharik Mallapragada joined the MIT Energy Initiative in May 2018. Prior to MIT, Dharik worked at ExxonMobil Corporate Strategic Research, where he contributed to research on power systems modeling, life cycle assessment and also led a research program to study energy trends in developing countries. Through his Ph.D. and nearly five years of research experience in the chemicals and energy industry, Dharik has worked on a range of sustainability-focused research topics such as designing light-weight composite materials and carbon-efficient biofuel pathways, as well as developing novel tools for energy systems analysis. His research interests include the design of novel energy conversion processes and their integration into the energy system. At MIT, Dharik is working on advancing power systems modeling tools to study questions around renewables integration and economy-wide electrification.

Dharik holds a M.S. and Ph.D. in Chemical Engineering from Purdue University. He received a B.Sc. in Chemical Engineering from the Indian Institute of Technology, Madras.