

# Imagining the Future: The Role of Our National Labs in Realizing a Sustainable, Resilient, and Equitable Energy Future

Oppenheimer Leadership Network (OLN) Workshop, Co-Hosted with SLAC National Accelerator Laboratory

## Welcoming Reception: SLAC, Main Quad – July 30, 2024

5:00 – 7:00 PM

### Reception and Welcoming Remarks

- **John Sarrao**, Laboratory Director, SLAC
- **Paul Kearns**, Laboratory Director, Argonne National Laboratory

## Imagining the Future Workshop: Paul Brest Hall, Stanford Campus – July 31, 2024

8:00 – 9:00 AM

### Arrival, Registration, Breakfast and Networking

9:00 – 9:05 AM

**Welcome and Agenda Overview by Kate Anderson**, Chair, Oppenheimer Leadership Network and Strategy Lead, National Renewable Energy Laboratory, and **Marcey Hoover**, OSELP Senior Advisor & Director of Partner Relations, Federal Laboratories, Purdue University

9:05 – 9:10 AM

**Opening Remarks by John Sarrao**, Laboratory Director, SLAC

9:10 – 9:45 AM

**Keynote by Arun Majumdar**, Dean of the Stanford Doerr School of Sustainability  
*Themes: The role of the National Labs in tackling the “hardest” problems of realizing a sustainable, resilient, and equitable energy future.*

9:45 – 10:45 AM

### Embracing Risk to Drive Innovation and Impact at the National Labs

**Moderator: Matthew Garrett**, Director of Innovations and Partnerships, Lawrence Livermore National Laboratory

Panel Members:

- **Mark Johnson**, Entrepreneur, Product Builder, 3x CEO, Morton Labs
- **Scott Hsu**, Senior Advisor and Lead Fusion Coordinator for the U.S. Department of Energy
- **Mary Ann Piette**, Associate Laboratory Director of the Energy Technologies Area, Lawrence Berkeley National Laboratory

*Themes: Creating risk-tolerant cultures, organizational approaches to incentivizing risk, managing and learning from failure, the role of risk in achieving ambitious goals and transformational impacts.*

10:45 – 11:05 AM	<b>Break</b>
11:05 – 12:30 PM	<p><b>UNCONFERENCE Session</b></p> <p><b>Facilitators:</b> <b>Despina Milathianaki</b>, Director of Technology Transfer and Strategic S&amp;T Partnerships, SLAC, and <b>Tim Meyer</b>, Deputy Director for Operations and Chief Operating Officer, Princeton Plasma Physics Laboratory</p>
12:30 – 1:45 PM	<b>Networking Lunch</b>
1:45 – 2:00 PM	<b>Call to Order &amp; Afternoon Kick-off by Robert Wagner</b> , Vice-Chair, Oppenheimer Leadership Network and Associate Laboratory Director of the Energy Science and Technology Directorate, Oak Ridge National Laboratory
2:00 – 3:15 PM	<p><b>Envisioning the Future of Clean Energy Innovation</b></p> <p><b>Moderator:</b> <b>Tom Kirchstetter</b>, Director of the Energy Analysis and Environmental Impacts Division at Lawrence Berkeley National Laboratory; <b>Opening Remarks</b> by Distinguished Guest, <b>Otmar Wiestler</b>, President, Helmholtz Association</p> <p>Panel Members:</p> <ul style="list-style-type: none"> <li>▪ <b>Paul Kearns</b>, Lab Director, Argonne National Laboratory</li> <li>▪ <b>John Sarrao</b>, Lab Director, SLAC</li> <li>▪ <b>Marianne Walck</b>, Lab Director, National Energy Technology Laboratory</li> <li>▪ <b>Otmar Wiestler</b>, President, Helmholtz Association</li> <li>▪ <b>Mike Witherell</b>, Lab Director, Lawrence Berkeley National Laboratory</li> </ul> <p><i>Themes: Leadership, vision, the future of science and technology innovation, navigating dynamic challenges.</i></p>
3:15 – 3:30 PM	<b>Break</b>
3:30 – 4:30 PM	<p><b>Accelerating the Pace of Clean Energy Innovation at the National Labs</b></p> <p><b>Moderator:</b> <b>Sue Suh</b>, OSELP Mentor and Advisor, formerly Chief People and Impact Officer at TIME</p> <p>Panel Members:</p> <ul style="list-style-type: none"> <li>▪ <b>Mark Hartney</b>, Partner at Breakthrough Energy Ventures</li> <li>▪ <b>Pulakesh Mukherjee</b>, Partner at Imperative Ventures</li> <li>▪ <b>Jonah Steinbuck</b>, Director of the California Energy Commission’s Energy Research and Development Division</li> </ul> <p><i>Themes: Accelerating clean energy innovation, transformative business models, new organizational structures, public private partnerships.</i></p>
4:30 – 4:45 PM	<b>Closing Remarks by Steve Eglash</b> , SLAC Director of Applied Energy Division and Interim Chief Research Officer
4:45 – 6:30 PM	<b>Post-Workshop Networking Reception</b>

## MORNING KEYNOTE

9:10 – 9:45 am

**Keynote Presentation by Arun Majumdar**, Dean of the Stanford Doerr School Of Sustainability



**Arun Majumdar** is the inaugural Dean of the Stanford Doerr School of Sustainability. He is the Jay Precourt Provostial Chair Professor at Stanford University, a faculty member of the Departments of Mechanical Engineering and Energy Science and Engineering, a Senior Fellow and former Director of the Precourt Institute for Energy and Senior Fellow (courtesy) of the Hoover Institution. He is also a faculty in Department of Photon Science at SLAC.

In October 2009, Dr. Majumdar was nominated by President Obama and confirmed by the Senate to become the Founding Director of the Advanced Research Projects Agency - Energy (ARPA-E), where he served until June 2012 and helped ARPA-E become a model of excellence and innovation for the government with bipartisan support from Congress and other stakeholders. Between March 2011 and June 2012, he also served as the Acting Under Secretary of Energy, enabling the portfolio of Office of Energy Efficiency and Renewable Energy, Office of Electricity Delivery and Reliability, Office of Nuclear Energy and the Office of Fossil Energy, as well as multiple cross-cutting efforts such as Sunshot, Grid Modernization Team and others that he had initiated.

Dr. Majumdar serves as the Chair of the Advisory Board of the US Secretary of Energy, Jennifer Granholm. He led the Agency Review Team for the Department of Energy, Federal Energy Regulatory Commission and the Nuclear Regulatory Commission during the Biden-Harris Presidential transition. He served as the Vice Chairman of the Advisory Board of US Secretary of Energy, Dr. Ernest Moniz. After leaving Washington, DC and before joining Stanford, Dr. Majumdar was the Vice President for Energy at Google, where he assembled a team to create technologies and businesses at the intersection of data, computing and electricity grid.

Dr. Majumdar is a member of the US National Academy of Sciences, US National Academy of Engineering and the American Academy of Arts and Sciences. His research in the past has involved the science and engineering of nanoscale materials and devices, especially in the areas of energy conversion, transport and storage as well as biomolecular analysis. His current research focuses on redox reactions and systems that are fundamental to a sustainable energy future, multidimensional nanoscale imaging and microscopy, and an effort to leverage modern AI techniques to develop and deliver energy and climate solutions.

Prior to joining the Department of Energy, Dr. Majumdar was the Almy & Agnes Maynard Chair Professor of Mechanical Engineering and Materials Science & Engineering at University of California–Berkeley and the Associate Laboratory Director for energy and environment at Lawrence Berkeley National Laboratory. Dr. Majumdar received his bachelor's degree in Mechanical Engineering at the Indian Institute of Technology, Bombay in 1985 and his Ph.D. from the University of California, Berkeley in 1989.

## PANEL DISCUSSION

### Embracing Risk to Drive Innovation and Impact at the National Labs

9:45 – 10:45 am

#### Panelists

- **Mark Johnson**, Entrepreneur, Product Builder, 3x CEO, Morton Labs
- **Scott Hsu**, Senior Advisory and Lead Fusion Coordinator for the U.S. Department of Energy
- **Mary Ann Piette**, Associate Laboratory Director of the Energy Technologies Area, Lawrence Berkeley National Laboratory

**Moderator: Matthew Garrett**, Director of Innovations and Partnerships, Lawrence Livermore National Laboratory.

**Themes:** Creating risk-tolerant cultures, organizational approaches to incentivizing risk, managing and learning from failure, the role of risk in achieving ambitious goals and transformational impacts.

**Description:** This panel will explore big-picture strategies and overarching frameworks needed to increase the ability of the National Labs to embrace and incentivize risk.

#### About the Panelists



**Mark Johnson** is an experienced executive with expertise in translating complex technologies into useful products. Mark has been a CEO three times, executed 3 successful exits, and has a deep background in product management. He is currently the CTO of Stand Together, a community of nonprofits working to solve society's biggest problems, from economic opportunity to education to criminal justice reform. Prior to Stand Together, Mark was the CEO of GrainBridge, an AgTech joint-venture between ADM and Cargill. After releasing a product to farmers, he sold the company to Bushel in October 2021. Prior to GrainBridge, Mark co-founded Descartes Labs with a group of scientists from Los Alamos National Laboratory with the vision of building a digital twin of the Earth to better understand our natural resources. He served as the CEO, leading the company to over 100 employees, \$60m in funding, and \$20m in revenue. Previously, Mark served as CEO of the AI-driven news service Zite, which he sold to CNN five months after the company launched. He has spent the past decade working in Machine Learning and Big Data, taking three search startups to successful exits: SideStep (acquired by Kayak for \$180M in December 2007), Kosmix (acquired by Walmart in April 2011), and Powerset (acquired by Microsoft in July 2008). Powerset became Bing after the Microsoft acquisition.



**Dr. Scott C. Hsu** is a Senior Advisor to the Under Secretary for Science and Innovation at the U.S. Department of Energy (DOE), and Lead Fusion Coordinator for DOE's efforts to accelerate fusion energy research, development, demonstration, and commercialization in partnership with the private sector. Previously (2018–2022), Scott was a Program Director at ARPA-E, where he led and managed its fusion-energy R&D portfolio. Prior to ARPA-E, Scott was a research scientist at LANL (2002–2019), where he conducted and led experimental research in fundamental plasma and fusion sciences, and fusion concept exploration spanning magnetic, magneto-inertial, and inertial confinement fusion. Scott is author or co-author of 80+ peer-reviewed publications, a Fellow of the American Physical Society (APS), and a corecipient of the 2002 APS Award for Excellence in Plasma Physics Research. Scott earned a Ph.D. in Astrophysical Sciences (Program in Plasma Physics) from Princeton University and a B.S. *summa cum laude* in Electrical Engineering from UCLA.



**Mary Ann Piette** is the Associate Lab Director of the Energy Technologies Area (ETA) at Lawrence Berkeley National Laboratory. This area includes the Building Technology & Urban Systems (BTUS), Energy Analysis & Environmental Impacts, and Energy Storage & Distributed Resources divisions. She manages a research enterprise comprised of about 700 staff and affiliates, including 120 principal investigators working across a broad set of technology R&D programs to accelerate decarbonization ranging from demand-side energy efficiency and grid integration to hydrogen technologies, energy storage, and renewable energy systems. Piette facilitates collaboration with partners including manufacturers, utilities, state agencies, cities, aggregators, non-profits, engineering firms, building owners, and many others. She has also helped shape Berkeley Lab's culture to support inclusion, diversity, equity and accountability. Piette has authored over 115 peer reviewed publications related to energy systems, and she recently won a Lifetime Achievement Award at Berkeley Lab for her work in energy-efficient and grid-interactive buildings research. As part of energy modeling teams at Berkeley Lab, she has received two R&D 100 awards for the tools to evaluate commercial building and city-level energy efficiency and decarbonization strategies. Piette has an MS in Mechanical Engineering from UC Berkeley and a Licentiate in Building Services Engineering from the Chalmers University of Technology in Sweden.

### About the Moderator



**Matt Garrett** is the Director of the Innovation and Partnerships Office at Lawrence Livermore National Laboratory (LLNL). The Innovation and Partnerships Office (IPO) serves as the focal point for LLNL engagement with the private sector. The IPO works with Lab colleagues to advance the development and commercialization of LLNL scientific discoveries with intellectual property protection, support and structures for effective collaborations, entrepreneurship training, and pursuit of business development activities. Prior to joining LLNL, Matt served as Chief

Technology Officer and Director of Technology Transfer and Private Partnerships at SLAC National Accelerator Laboratory, managed and operated by Stanford University. Prior to joining SLAC, Matt served as Commercialization Manager in the Technology Transfer Office at Oak Ridge National Laboratory. Matt has also served as deputy director of the Center for Technical Intelligence Studies and Research at the Air Force Institute of Technology.

Matt also previously served as a senior scientist/program manager with Nomadics, Inc. While with the company, he participated in the development and manufacturing of handheld and robot-mounted explosives detection platforms, leveraging amplifying fluorescent polymer technology licensed from the Massachusetts Institute of Technology, where he served as a visiting scientist in the Institute for Soldier Nanotechnologies. The detection platform was named one of the US Army's Top 10 Inventions of 2005, which led to its eventual acquisition by ICx Technologies and FLIR Systems. Matt was honored with the 2020 Department of Energy Technology Transfer Working Group (TTWG) Best-in-Class Award for IP Management, a 2020 UT-Battelle Distinguished Innovation Award, and was part of a team at ORNL that received a 2021 R&D100 Award. Matt was also named a Fellow of the 2022 Oppenheimer Science and Energy Leadership Program. Matt holds an M.S. in Chemistry from The Pennsylvania State University and a B.S. in Chemistry from Florida State University. Matt was a member of the Oppenheimer Science and Energy Leadership Program's fifth cohort.

## UNCONFERENCE SESSION

Working session from 11:05 – 12:15 am. Report out from 1:15 – 2:00 pm

### Facilitators

- **Despina Milathianaki**, Director of Technology Transfer and Strategic S&T Partnerships, SLAC National Accelerator Laboratory
- **Tim Meyer**, Deputy Director for Operations and Chief Operating Officer, Princeton Plasma Physics Laboratory

### About the Facilitators



**Despina Milathianaki** is the Director of Technology Transfer and Strategic S&T Partnerships at SLAC National Accelerator Laboratory. She oversees the Office of Technology Transfer, facilitating development and execution of SLAC's technology transfer initiatives and external engagement activities. Despina holds a master's in Physics from Imperial College London and a master's in Electrical Engineering from the University of Michigan. She completed her PhD in High Energy Density Physics at the University of Texas at Austin, conducting research at Lawrence Livermore National Laboratory. She joined SLAC in 2010

as a staff scientist at the Linac Coherent Light Source (LCLS), where she examined the behavior of materials under extreme conditions. Before her current role, she served as Senior Director for DOE Partnerships at Rigetti Computing and held various strategic planning positions at SLAC, including Director of Strategic Planning and Investment. Despina's early career included a role as a Technology Management Consultant at Accenture UK. Her interdisciplinary expertise spans physics, engineering, and strategic management, focusing on innovation and technological advancements in the national laboratory system. She was a member of the Oppenheimer Science and Energy Leadership Program's fourth cohort.



**Timothy Meyer** is the Deputy Director for Operations and Chief Operating Officer for PPPL. He supports the lab in all aspects of operations, from strategy-setting to day-to-day activities to aggressively implement the PPPL Laboratory Plan and agenda. Tim holds a Ph.D. in experimental particle physics from Stanford University and most recently was a deputy project director of the Fermi National Accelerator Laboratory's project being built in South Dakota and Illinois to focus on neutrino physics. He also served a five-year term as Fermilab's Chief Operating Officer. Prior to Fermilab, he worked at the TRIUMF laboratory, Canada's national particle accelerator center, as head of strategic planning and communication to help broaden the laboratory's mission and

expand its operations. He was a member of the Oppenheimer Science and Energy Leadership Program's first cohort.

## PANEL DISCUSSION

### Envisioning the Future of Clean Energy Innovation

2:00 – 3:15 pm

#### Panelists

- **Paul Kearns**, Lab Director, Argonne National Laboratory
- **John Sarrao**, Lab Director, SLAC
- **Marianne Walck**, Lab Director, National Energy Technology Laboratory
- **Otmar Wiestler**, President, Helmholtz Association
- **Mike Witherell**, Lab Director, Lawrence Berkeley National Laboratory

**Moderator:** Tom Kirchstetter, LBNL Director of the Energy Analysis and Environmental Impacts Division.

**Themes:** Leadership, vision, the future of science and technology innovation, navigating dynamic challenges

**Description:** This panel will bring together distinguished leaders from some of the world's foremost research institutions to envision the future of science and technology innovation with a focus on clean energy. The discussion will begin with opening remarks from President Otmar Wiestler, providing an overview of Germany's 18 Helmholtz research centers and the strategic scientific and technological research directions they are pursuing in clean energy. This comparative framework will set the stage for the panel to explore the critical role of leadership and vision in navigating the challenges and opportunities faced by major research institutions, both today and in the future.

#### About the Panelists



**Paul K. Kearns** has served as director of the U.S. Department of Energy Argonne National Laboratory since 2017. Argonne is a multidisciplinary science and engineering research center with a \$1.4 billion diversified research portfolio and nearly 4,000 employees, over 7,000 facility users, and more than 2,000 visiting researchers. Kearns sets the laboratory's strategic vision to deliver pivotal discoveries, realize dynamic collaborations, and provide powerful scientific tools and facilities. He also establishes policies that make the laboratory more welcoming, inclusive, and supportive of its world-class community of talent.

A biologist and accomplished steward of diverse scientific resources, Kearns has managed complex research and development enterprises for over 30 years, enabling them to achieve ambitious goals in energy, environment, and national security. As Argonne laboratory director, Kearns oversees six DOE user facilities, six multi-institution collaborations, and many research programs that are critical to Argonne's mission of accelerating science and technology to drive U.S. prosperity and security. Upgrading the Advanced Photon Source and launching one of the fastest exascale computers in the



U.S. at the Argonne Leadership Computing Facility are vital to maintaining U.S. leadership in technology and the progress of science.

Kearns was an executive with Battelle Global Laboratory Operations for five years prior to joining Argonne in 2010. Kearns helped establish a groundbreaking program to deploy micro-grids and support cyber security technologies for the U.S. military. He worked with the University of Manchester, the United Kingdom's National Nuclear Laboratory, and the United Kingdom Technical Strategy Board to define a research and development investment strategy in nuclear energy. As president and managing director of Battelle-Italia, Kearns implemented an integrated business plan for the Battelle Memorial Institute subsidiary, working with the government of Italy and industry to address energy, security, and environmental challenges.

Kearns is a fellow of the American Association for the Advancement of Science. He also serves as chair of the DOE National Laboratory Directors' Council and as a member of the U.S. Council on Competitiveness' National Commission on Innovation and Competitiveness Frontiers. Kearns has a doctorate and a master's degree in bionucleonics and a bachelor's degree in natural resources and environmental sciences, all from Purdue University, which honored him with the John E. Christian Distinguished Alumnus Award in 2022.



**John Sarrao** became SLAC's sixth director in October 2023. He came to SLAC from Los Alamos National Laboratory (LANL) in New Mexico, where he served as the deputy director for science, technology and engineering. In that role he led multiple directorates, including chemistry, earth and life sciences, global security, physical sciences, and simulation and computation. He also stewarded technology transitions and served as LANL's chief research officer in support of its national security mission. Before becoming deputy director, he also served as associate director for theory, simulation and computation and division leader for materials physics and applications at LANL.

Sarrao's scientific research focus is superconductivity in materials. He studies the synthesis and characterization of correlated electron systems, especially actinide materials. He won the 2013 Department of Energy's E.O. Lawrence Award and is a fellow of the American Association for the Advancement of Science, the American Physical Society and Los Alamos National Laboratory.

Sarrao's research and technical leadership has emphasized national security science, from plutonium physics research to advanced materials design and discovery and stewardship of high-performance computing resources and simulation capabilities. Sarrao received his PhD and master's degree in physics from the University of California, Los Angeles, and a bachelor's degree in physics from Stanford University.



**Marianne Walck, Ph.D.**, leads the complete NETL complex, including two major components: world-class research and development (R&D) focused on carbon management and resource sustainability and development and execution of a broad spectrum of national energy programs for the U.S. Department of Energy Offices of Energy Efficiency and Renewable Energy; Electricity; and Cybersecurity, Energy Security and Emergency Response. Walck leads NETL's more than 1,700 employees, located at three sites across the nation, who are responsible for more than 1,000 R&D projects in 50 states with a total award value of \$5 billion. As director, Walck fosters strategic relationships with academic institutions, state and local

governments and important carbon management stakeholders. Prior to joining NETL, Walck served as deputy laboratory director for Science and Technology and chief research officer at Idaho National Laboratory. Her prior experience includes 33 years at Sandia National Laboratories (SNL), concluding as vice president for SNL's California laboratory and its Energy and Climate Program. She is a member of numerous societies and councils and is a fellow of the American Association for the Advancement of Science. Walck earned a doctorate and master's in geophysics from the California Institute of Technology and a bachelor's in geology/physics from Hope College.



**Otmar D. Wiestler** became President of the Helmholtz Association of German Research Centres, the largest association of research centres in Germany, in September 2015. From 2004 to 2015 he served as Chairman of the Management Board and Scientific Director of the DKFZ in Heidelberg. From 2007 to 2012, he was Vice-President for Health of the Helmholtz Association. Wiestler studied medicine at the University of Freiburg. From 1984 to 1987 he spent a postdoctoral fellowship at the University of California in San Diego, and then went on to join the Department of Pathology at the University of Zurich, Switzerland. From 1992 to 2003, he headed the Department of Neuropathology at the University of Bonn,

where he also served as head of the German Brain Tumor Reference Center and as Medical Director of Life & Brain GmbH.



**Michael Witherell** has served as Lab Director since 2016. Founded in 1931, Berkeley Lab delivers scientific breakthroughs over a remarkable range of basic and applied science, with special focus on research in clean energy, Earth and ecological systems, and discovery science. The Lab has an annual budget of more than \$1 billion and is home to five national user facilities that serve more than 14,000 researchers annually. Its talented workforce of nearly 4,000 people contributes to its world-renowned expertise in materials, chemistry, physics, biology, Earth and environmental science,

mathematics, and computing. The Lab's operations teams are currently managing approximately \$700 million in new capital and infrastructure projects as Director Witherell executes his vision of the Lab of the future.

A leading physicist with a distinguished career in teaching, research, and managing complex organizations, Witherell has received numerous honors and recognitions for his scientific contributions and achievements, including the W. K. H. Panofsky Prize in Experimental Particle Physics from the American Physical Society in 1990. He is a member of the National Academy of Sciences and is a fellow of the American Physical Society, the American Association for the Advancement of Science, and the American Academy of Arts and Sciences. This is the second national laboratory he has led; he headed Fermi National Accelerator Laboratory (Fermilab) from 1999 to 2005. He received his Ph.D. from the University of Wisconsin, Madison, in 1973 and his B.S. from the University of Michigan, Ann Arbor, in 1968.

### About the Moderator



**Thomas Kirchstetter** is a Senior Scientist at Berkeley Lab. He serves as the Director of the Energy Analysis and Environmental Impacts Division, which supports decision making in the electricity sector, provides the technical basis for DOE's appliance and equipment energy efficiency standards, and analyses energy systems to inform technology development and deployment. Kirchstetter is also the Chief Scientific Advisor to the Cyclotron Road Program, which supports entrepreneurs who are creating tomorrow's clean energy future. He holds a concurrent appointment as an Adjunct Professor in Civil & Environmental Engineering at UC Berkeley, where he teaches courses and mentors student researchers. Kirchstetter has served as an editor of the journals *Aerosol Science & Technology* and *Atmospheric Chemistry & Physics* and organizer of the International Conference on Carbonaceous Particles in the Atmosphere.

Kirchstetter entered the DOE national laboratory system as a student intern at Brookhaven National Lab in 1992. After earning a PhD in Environmental Engineering at UC Berkeley, Kirchstetter won the DOE Alexander Hollaender Distinguished Postdoctoral Fellowship in 1998 and began conducting atmospheric aerosol research under the mentorship of Tihomir Novakov at Lawrence Berkeley National Lab, where he has spent the past 20+ years of his career. Kirchstetter is well known for his research on carbonaceous aerosols and the characterization of motor vehicle emissions and control technologies. Kirchstetter was a member of the Oppenheimer Science and Energy Leadership Program's third cohort and is a cofounder of the Oppenheimer Leadership Network.

## PANEL DISCUSSION

### Accelerating the Pace of Clean Energy Innovation at the National Labs

3:30 – 4:30 pm

#### Panelists

- **Mark Hartney**, Partner at Breakthrough Energy Ventures
- **Pulakesh Mukherjee**, Partner at Imperative Ventures
- **Jonah Steinbuck**, Director of the California Energy Commission's Energy Research and Development Division

**Moderator: Sue Suh**, OSELP Mentor and Advisor, formerly Chief People and Impact Officer at TIME.

**Themes:** Accelerating clean energy innovation, transformative business models, new organizational structures, public private partnerships.

**Description:** Building upon the morning's discussion on enabling the National Labs to incentivize risk, this session will explore paradigm-busting strategies to accelerate clean energy innovation at the National Labs. The panel will use a big-picture lens to discuss novel collaboration structures, creative business models, new funding modalities that could speed the pace and impact of clean energy innovation at the National Labs.

#### About the Panelists



**Mark Hartney** has been involved in technology innovation throughout his career—in research and development roles, successful startup companies and as a federal program manager. Mark is based in Europe, supporting the BEV-E fund. Prior to joining Breakthrough, Mark served as the CTO and Applied Energy Division Director at SLAC, a DOE National Lab at Stanford University. Mark was also a Precourt Energy Scholar with the Stanford Precourt Energy Institute.

Prior to his roles at SLAC and Stanford, Mark served at the Department of Energy as one of the founding program directors of ARPA-E where he led efforts in carbon capture technology, (the IMPACCT program), as well as a number of other projects in wind technology, energy efficiency, biofuels and lighting.

Before starting ARPA-E, Mark served as the Chief Technical Officer for FlexTech, an industry-government partnership focused on R&D for flexible electronics. He has also served in business and technical management roles at two start-ups – Silicon Image and dpiX; and has held staff positions at the Defense Advanced Research Projects Agency (DARPA), the White House's Office of Science and Technology Policy (OSTP), MIT Lincoln Labs and AT&T Bell Labs. Mark is a graduate of MIT (B.S. and M.S.) and earned his Ph.D. at the University of California at Berkeley, all in chemical engineering.



**Pulakesh Mukherjee** is a partner at Imperative Ventures. Before co-founding Imperative, Pulakesh spent ten years at BASF Venture Capital sourcing and executing investments in the energy, agriculture, chemical, and industrial sectors. During that time, he served as a director or observer on the boards of early-stage technology companies. Prior to his role in venture capital, Pulakesh gained over ten years of experience in international business development, sales, marketing, and chemical process scale-up while working at BASF. He serves on numerous industry advisory boards, including the NREL Investor Advisory Board, Activate, and Rocky Mountain Institute. Pulakesh has a PhD from Stanford University and a M.Sc. from IIT Kanpur, India. He has published in peer-reviewed journals and has co-authored more than 15 patents.



**Jonah Steinbuck** is the director of the California Energy Commission's Energy Research and Development Division. The division manages technology innovation and deployment programs that accelerate progress towards a clean energy economy. This includes the Electric Program Investment Charge program, which is the state's premier clean electricity research and development program, and the Natural Gas Research and Development Program, which supports advancements in renewable gas and gas infrastructure planning. Steinbuck previously managed the division's Energy Generation Research Office, leading technology innovation activities in renewable energy and sustainable transportation as well as advancements in energy-related environmental research.

Before joining the Energy Commission, he worked on climate and clean energy policies and initiatives in Washington, D.C. at the U.S. Department of Energy, the American Meteorological Society, the White House Council on Environmental Quality, and the U.S. House of Representatives. Steinbuck holds a doctoral degree in civil and environmental engineering from Stanford University and a master's in public administration from the Kennedy School of Government at Harvard University.

### About the Moderator



**Sue Suh** (she/her) most recently had the joy of serving as the first Chief People Officer and Chief Impact Officer for the 100-year-old global media company TIME, whose commitment to trust, integrity, equality and courage shines a light on the stories and storytellers who move the world. Before joining TIME Sue's career spanned philanthropy and public service around the globe, including with The Rockefeller Foundation and the U.S. Departments of State and Defense, beginning her federal government career as a Presidential Management Fellow.

Sue's interest in nuclear weapons and international security began in college, when a 1995 internship with the U.S. Mission to the United Nations coincided with the world's intense focus on French nuclear testing in the South Pacific, and she would go on to write an award-winning senior

thesis on the French nuclear program. During her tenure with the U.S. State and Defense Departments beginning in September 2001, Sue's portfolio covered multilateral arms control, bilateral nuclear arms control with Russia (including supporting the 2002 Strategic Offensive Reductions Treaty or "Moscow Treaty"), UN sanctions regimes and counterterrorism mechanisms, the UN funds and programs, U.S. Congressional affairs, media guidance and public affairs, public diplomacy, advising senior officials on critical policy developments via daily oral and written briefings, and managing VIP delegations. Sue served these responsibilities in Washington DC, New York City, and Tripoli, Libya.

Sue is a relentless optimist and passionate about the power of media, education, the performing arts and sports to effect transformational change. She currently sits on the Center for Public Integrity's Board of Directors, the Emma Bowen Foundation's National Advisory Council, and the Board of Advisors for Columbia Journalism School's Knight-Bagehot Fellowship in Business and Economics. Sue was also honored to be named one of the Top 100 Women Leaders of New York for 2021, a 2021 New Yorker for New York and a 2019 Folio:100 member in the C-Suite category. Outside of media, she serves on the Board of the Classical Theatre of Harlem, and recently served on the Boards of Special Olympics Asia Pacific and the Coca-Cola Scholars Foundation. Sue graduated from Princeton University (Politics BA) and Columbia University (Political Science MA) and was grateful to earn a Fulbright award to teach in her family's homeland of South Korea. She loves supporting amazing humans who seek to move the world forward! Sue is a mentor and advisor to the Oppenheimer Science and Energy Leadership Program.

## CLOSING REMARKS

4:30 – 4:45 pm

**Closing remarks by Steve Eglash**, SLAC Director of Applied Energy Division and Interim Chief Research Officer



**Steve Eglash** is Director of the Applied Energy Division and Interim Chief Research Officer at SLAC National Accelerator Laboratory. The Applied Energy Division conducts research on the electric grid, batteries, water desalination, photovoltaics, advanced manufacturing, and sustainability. The Applied Energy Division is part of the Energy Sciences Directorate, which conducts research in chemistry, materials, computer science, and applied energy. The Office of the Chief Research Officer oversees and supports the SLAC research portfolio and SLAC researchers. It provides planning, policy development, and guidance to the Lab’s researchers and oversees their career path. SLAC is operated by Stanford University for the U.S. Department of Energy’s Office of Science. Previously, Steve developed and managed research programs at Stanford University in artificial intelligence, computer science, energy, and sustainability. Steve helped to create new programs at Stanford such as the Institute for Human-Centered AI, SAIL-Toyota Center for AI Research, Stanford Data Science Initiative, Bay Area PV Consortium, and Energy and Environment Affiliates Program. Prior to joining Stanford, Steve was president and CEO of solar energy company Cyrium Technologies, consultant for the National Renewable Energy Lab and US Department of Energy, venture capitalist at Worldview Technology Partners, vice president at SDL (JDSU), and member of the technical staff at MIT Lincoln Laboratory. Steve received a PhD and MS from Stanford and BS from UC Berkeley, all in electrical engineering. Steve is a Fellow of the SPIE, Chair of the Leadership Board of the Santa Clara University College of Arts and Sciences, a former Board member of the MRS, and a former utilities commissioner for the City of Palo Alto.