AI
FOR SCIENCE
TOWN HALL

OCTOBER 22-23, 2019
Renaissance Washington, DC Downtown Hotel

U.S. DEPARTMENT OF **ENERGY** | Office of Science
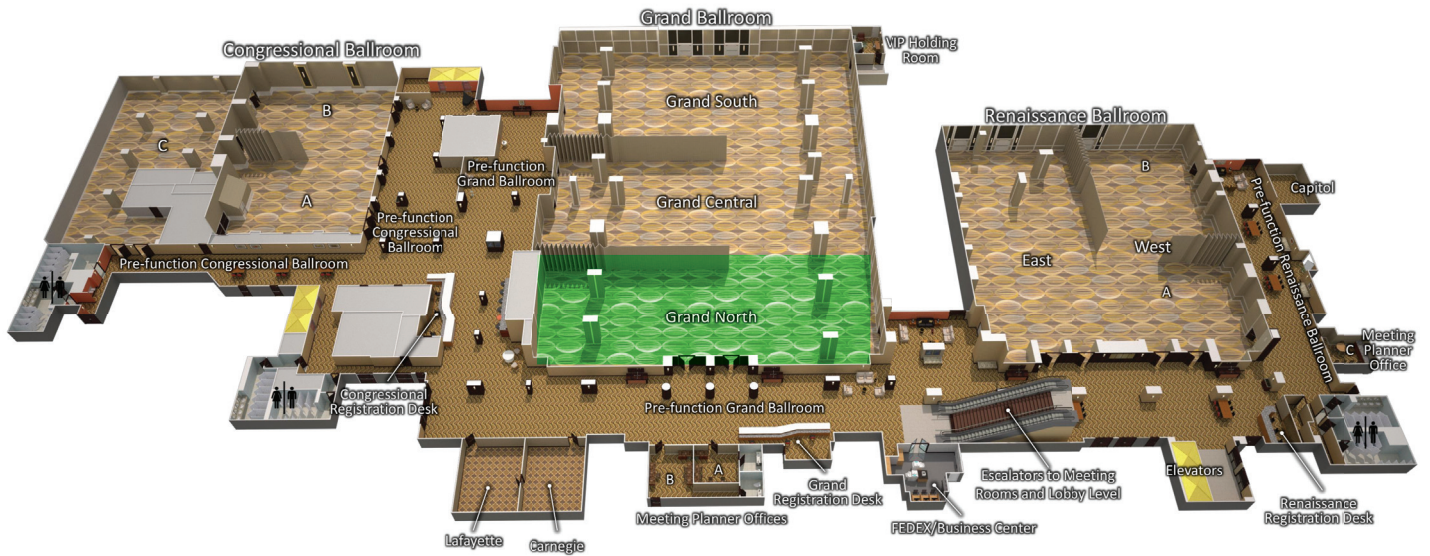
AGENDA

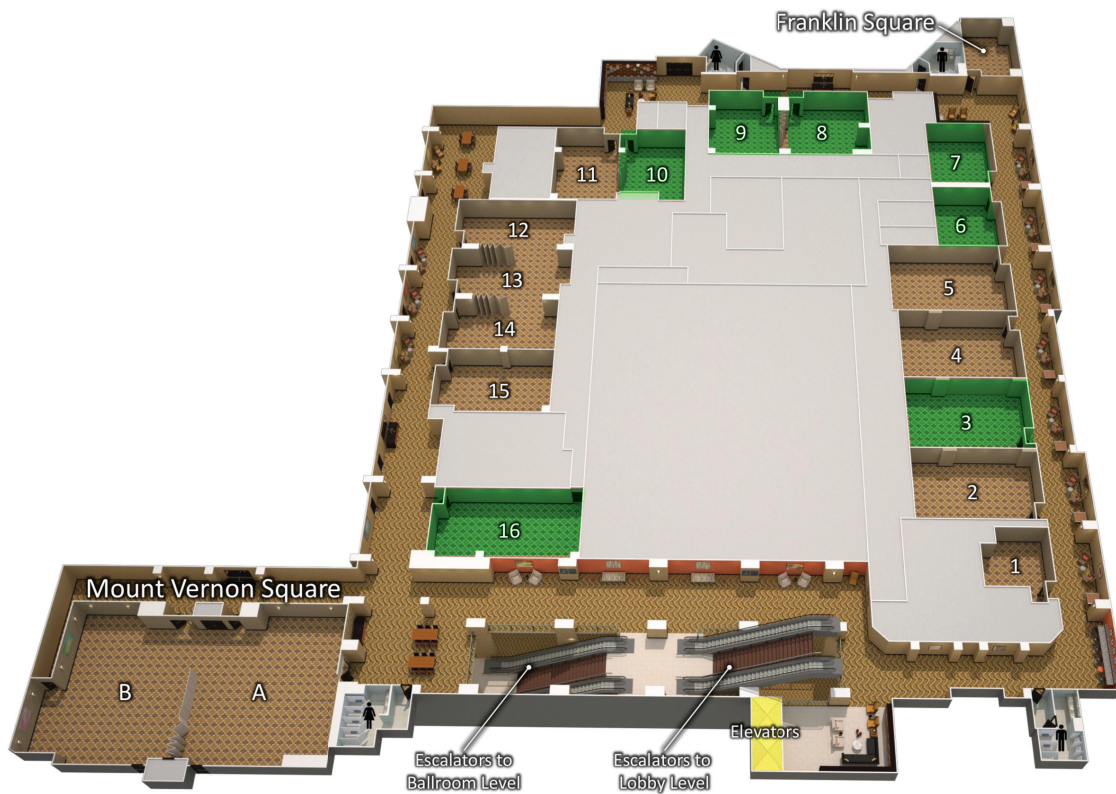|		
7:30 a.m.	*Registration and Working Continental Breakfast*	Ballroom Level Lobby
8:30 a.m.	*Welcome and Introduction* *Barbara Helland (DOE)*	Grand Ballroom North
8:45 a.m.	*DOE HQ Opening Remarks* *Chris Fall (DOE)*	Grand Ballroom North
9:00 a.m.	*Summary from 3 Town Halls* *Kathy Yelick (LBNL)* *Rick Stevens (ANL)* *Jeff Nichols (ORNL)*	Grand Ballroom North
10:00 a.m.	*Break*	Ballroom Level Lobby
10:30 a.m.	*How Significant Will AI Be For the Energy Sector? Quantifying Progress And Outlining Signposts* *Claire Curry (Bloomberg New Energy Finance)*	Grand Ballroom North
11:15 a.m.	*AI Research Update: What's Going On Around The World, And Our Research Plans For Studying AI For Science* *Earl Joseph (Hyperion Research)*	Grand Ballroom North
11:45 a.m.	*Break for working lunch* Networking and Preparation for Breakout Sessions	Ballroom Level Lobby
1:30 p.m.	*Breakout Sessions*	
	Machine Learning Foundations and Open Problems Co-Leads: *David Womble (ORNL)* *Stefan Wild (ANL)* *Prabhat (LBNL)*	Grand Ballroom North
	Facilities Integration and AI Ecosystem Co-Leads: *Jim Hack (ORNL)* *Mike Papka (ANL)* *Sudip Dosanj (LBNL)* *Inder Monga (LBNL)*	Meeting Room 3
	Earth and Environmental Sciences Co-Leads: *Forrest Hoffman (ORNL)* *Rao Kotamarthi (ANL)* *Haruko Wainwright (LBNL)*	Meeting Room 6
	Chemistry, Materials, and Nano Science Co-Leads: *Cynthia Jenks, (ANL)* *Bert deJong, (LBNL)*	Meeting Room 7

	Engineering and Manufacturing Co-Leads: *Santanu Chaudhuri (ANL)* *John Turner (ORNL)* *Peter Nugent (LBNL)*	Meeting Room 8
	Nuclear Physics Co-Leads: *David Dean (ORNL)* *Zein-Eddine Meziani (ANL)* *Brian Quiter (LBNL)*	Meeting Room 9
	Data Life Cycle and Infrastructure Co-Leads: *Arjun Shankar (ORNL)* *Nicola Ferrier (ANL)* *Wes Bethel (LBNL)*	Meeting Room 10
	Support for AI for Experimental Facilities Co-Leads: *Ken Herwig (ORNL)* *Doga Gursoy (ANL)* *Peter Zwart (LBNL)*	Meeting Room 16
3:15 p.m.	*Break*	Ballroom Level Lobby
3:30 p.m.	*Startup Innovations in AI Hardware* PANEL *Moderator: Rick Stevens (ANL)* *Andy Hock (Cerebras)* *Kunle Olukotun (SambaNova)* *Dale Southard (Groq)*	Grand Ballroom North
4:30 p.m.	*Breakout Summary* *Valerie Taylor (ANL),* *Barney Maccabe (ORNL)* *David Brown (LBNL)*	Grand Ballroom North
5:00 p.m.	*Close-out for the day* *Barb Helland (DOE)*	Grand Ballroom North
6:00 p.m.	*Dinner on your own*	

WEDNESDAY, OCTOBER 23, 2019

8:00 a.m.	*Registration and Working Continental Breakfast*	Ballroom Level Lobby
8:30 a.m.	*Day 2 Welcome* *Barbara Helland (DOE)*	Grand Ballroom North
8:45 a.m.	*Breakout Sessions*	
	AI for Computer Science Co-Leads: *Nagi Rao (ORNL)* *Prasanna Balaprakash (ANL)* *Lavanya Ramakrishnan (LBNL)*	Grand Ballroom North

	Biology and Life Sciences Co-Leads: *Gina Tourassi (ORNL)* *Tom Brettin (ANL)* Ben Brown (LBNL)	Meeting Room 3
	High Energy Physics Co-Leads: *Salman Habib (ANL)* *Paolo Calafiura (LBNL)*	Meeting Room 6
	Smart Energy Infrastructure Co-Leads: *Teja Kuruganti (ORNL)* *Mihai Anitescu (ANL)* *Tianzhen Hong (LBNL)*	Meeting Room 8
	Software Environments and Software Research Co-Leads: *Judy Hill (ORNL)* *Rob Ross (ANL)* *Katie Antypas (LBNL)*	Meeting Room 9
	Support for AI at the Edge Co-Leads: *Steven Young (ORNL)* *Pete Beckman (ANL)* *John Wu (LBNL)*	Meeting Room 10
	Hardware Architectures Co-Leads: *Jeff Vetter (ORNL)* *Andrew Chien (ANL)* *John Shalf (LBNL)*	Meeting Room 16
10:30 a.m.	***Break***	Ballroom Level Lobby
10:45 a.m.	***Cross Agency AI Strategies*** DoD, DOE, NSF, NIH *Lynne Parker, Moderator (OSTP)* *Steve Binkley (DOE)* *Adam Cardinal-Stakenas (DOD NSA Research)* *Erwin Gianchandani (NSF)* *Susan Gregurick (NIH)*	Grand Ballroom North
11:45	***Breakout Summary*** *Valerie Taylor (ANL)* *Barney Maccabe (ORNL)* *David Brown (LBNL)*	Grand Ballroom North
12:15 p.m.	***AI "Killer Applications"*** *Rick Stevens (ANL),* *Kathy Yelick (LBNL)* *Jeff Nichols (ORNL)*	Grand Ballroom North
1:00 p.m.	***Wrap Up*** *Barb Helland (DOE)*	Grand Ballroom North
1:15 p.m.	***Working Lunch*** Continue Networking and Coordination of Town Hall Report	Ballroom Level Lobby

MAPS

Congressional Ballroom

C

B

A

Pre-function Congressional Ballroom

Pre-function Congressional Ballroom

Congressional Registration Desk

Pre-function Grand Ballroom

Grand Ballroom

Grand South

Grand Central

Grand North

VIP Holding Room

Renaissance Ballroom

B

East

West

A

Pre-function Renaissance Ballroom

Capitol

C

Meeting Planner Office

Pre-function Grand Ballroom

Escalators to Meeting Rooms and Lobby Level

Elevators

Renaissance Registration Desk

Lafayette

Carnegie

B

A

Meeting Planner Offices

Grand Registration Desk

FEDEX/Business Center

BALLROOM LEVEL

Franklin Square

9

8

7

11

10

6

12

5

13

4

14

3

15

2

16

1

Mount Vernon Square

B

A

Escalators to Ballroom Level

Escalators to Lobby Level

Elevators

MEETING ROOM LEVEL

Welcome and Introduction

Barbara Helland

Associate Director, Office of Science's Advanced Scientific Computing Research Program, Department of Energy

Bio

Barbara Helland is currently the Associate Director of the Office of Science's Advanced Scientific Computing Research (ASCR) program. In addition to her Associate Director duties, she is leading the development of DOE's Exascale Computing Initiative to deliver a capable exascale system by 2021. Ms. Helland previously served as ASCR's Facilities Division Director. Prior to assuming the role of Division Director, she served as the Program Manager for ASCR's Argonne and Oak Ridge Leadership Computing Facilities and the National Energy Research Scientific Computing Center. She was also responsible for the opening of ASCR's facilities to national researchers, including those in industry, through the expansion of the Department's Innovative and Novel Computational Impact on Theory and Experiment (INCITE) program. Prior to DOE, Ms. Helland developed and managed computational science educational programs at the Krell Institute. She also spent 25 years at Ames Laboratory working closely with nuclear physicists and physical chemists to develop real-time operating systems and software tools to automate experimental data collection and analysis. While there, she worked on the deployment and management of lab-wide computational resources. She received a B.S. in Computer Science and a M. Ed. in Organizational Learning and Human Resource Development from Iowa State University.

DOE HQ Opening Remarks

Chris Fall

Director, Office of Science, Department of Department of Energy

Bio

Dr. Chris Fall serves as Director of the Department of Energy's Office of Science, the lead federal agency supporting fundamental scientific research for energy and the nation's largest supporter of basic research in the physical sciences. He oversees the Office's two principal thrusts: direct support of scientific research, and development, construction, and operation of unique, open-access scientific user facilities that are made available to external researchers. The Office of Science also is responsible for stewardship of 10 of the Department's 17 national laboratories.

Before joining the Office of Science, Fall served as a Senior Advisor to the Undersecretary for Energy and as Acting Director of DOE's Advanced Research Projects Agency-Energy (ARPA-E). Fall came to DOE from the Office of Naval Research (ONR), where he served for more than seven years in a variety of roles including Acting Chief Scientist and Lead for the Research Directorate, Deputy Director of Research, Director of the International Liaison Office, and the ONR Innovation Fellow. While on loan from ONR, Fall served for three years in the White House Office of Science and Technology Policy as Assistant Director for Defense Programs and then as Acting Lead for the National Security and International Affairs Division. Before government service, Fall was a faculty member at the University of Illinois at Chicago, and he completed postdoctoral fellowships at the University of California at Davis Institute for Theoretical Dynamics and the New York University Center for Neural Science.

Fall earned a Ph.D. in Neuroscience and a B.S. in Mechanical Engineering from the University of Virginia. He also holds an MBA from Northwestern University's Kellogg School of Management.
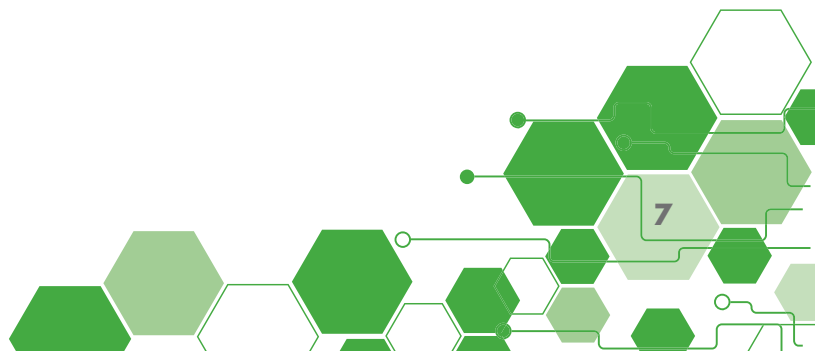
Kathy Yelick

Associate Laboratory Director for Computing Sciences, Lawrence Berkeley National Laboratory and Professor of Electrical Engineering and Computer Sciences, University of California-Berkeley

Bio

Katherine (Kathy) Yelick is a Professor of Electrical Engineering and Computer Sciences at UC Berkeley and the Associate Laboratory Director (ALD) for Computing Sciences at Lawrence Berkeley National Laboratory. Her research is in high-performance computing, programming languages, compilers, parallel algorithms, and automatic performance tuning. She currently leads the Berkeley UPC project and co-leads the Berkeley Benchmarking and Optimization (Bebop) group. As ALD for Computing Sciences at LBNL, she oversees the National Energy Research Scientific Computing Center (NERSC), the Energy Sciences Network (ESnet) and the Computational Research Division (CRD), which covers applied math, computer science, data science and computational science.
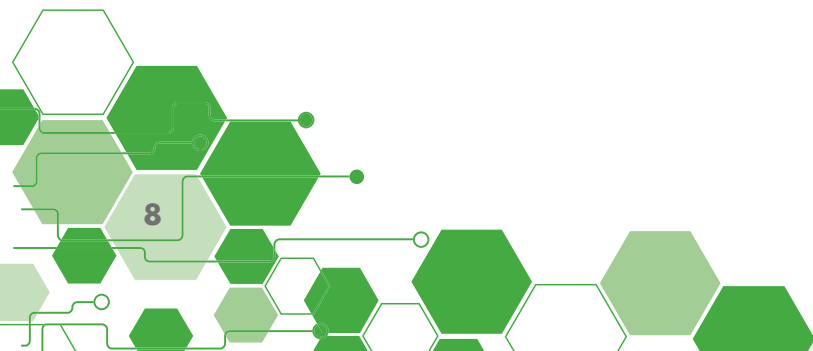
Rick Stevens

Associate Laboratory Director for Computing, Environment and Life Sciences, Argonne National Laboratory and Professor of Computer Science, University of Chicago

Bio

Professor Rick Stevens is internationally known for his work in high-performance computing, his collaboration and visualization technology, and for building computational tools and web infrastructures to support large-scale genome and metagenome analysis for basic science and infectious disease research. A current focus is the national initiatives for exascale computing and AI. He is the Associate Laboratory Director at Argonne National Laboratory and a Professor of Computer Science at the University of Chicago. In addition, he is the principal investigator of the NIH-NIAID funded PATRIC Bioinformatics Resource Center, the Exascale Computing Project (ECP), The Exascale Deep Learning and Simulation Enabled Precision Medicine for Cancer project, and the predicative models pilot of the DOE-NCI funded Joint Design of Advanced Computing Solutions for Cancer (JDACS4C) project. Over the past 20 years, he and his colleagues have developed the SEED, RAST, MG-RAST, and ModelSEED genome analysis and bacterial modeling servers that have been used by tens of thousands of users to annotate and analyze more than 250,000 microbial genomes and metagenomic samples.
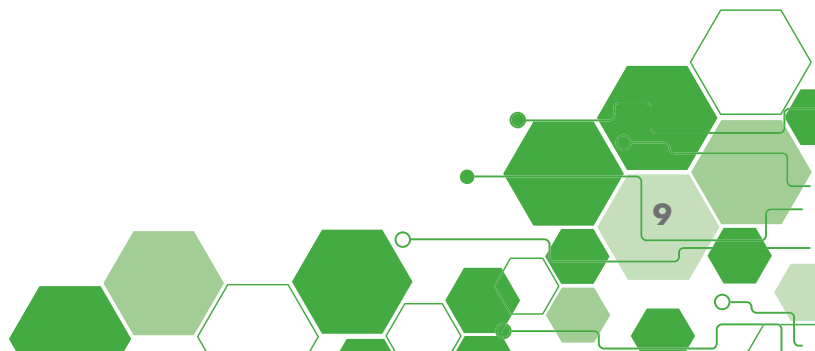
Jeff Nichols

Associate Laboratory Director for Computing and Computational Sciences, Oak Ridge National Laboratory

Bio

Dr. Nichols became the Associate Laboratory Director for ORNL's Computing and Computational Sciences Directorate in April 2009. In this position, he oversees DOE's National Center for Computational Sciences (NCCS), the site of the Oak Ridge Leadership Computing Facility (OLCF), which delivers state-of-the-art scientific research and technological innovations. The OLCF is home to Summit, the world's most powerful supercomputer. He leads ORNL's agenda in advanced high-performance computing in priority areas such as materials science, fusion energy, and health data, as well as the laboratory's quantum computing and artificial intelligence initiatives.

Prior to assuming his new position, Dr. Nichols was the deputy associate laboratory director of Computing and Computational Sciences, where he led efforts to build, install, and deploy next-generation supercomputers for DOE, the National Science Foundation, and the Department of Defense. A theoretical chemist and software developer, Dr. Nichols joined ORNL in 2002 as the director of the Computer Science and Mathematics Division, a position which he held until 2009. Additionally, from 2005-2006, he was acting director of NCCS. Before coming to ORNL, he was group leader and deputy director of the Environmental Molecular Sciences Laboratory at DOE's Pacific Northwest National Laboratory, where high priority was given to the development, deployment, and use of scalable computational science community codes to solve grand-challenge problems crucial to the nation.

Dr. Nichols holds a B.A. in Chemistry and a B.A. in Mathematics from Malone College in Canton, Ohio and a Ph.D. in Physical Chemistry from Texas A&M University. He has more than 25 years of experience as a theoretical chemist and software developer, and he has held professorships at Malone College (Ohio), the University of Utah, and the Georgia Institute of Technology. He is author or co-author of four software applications, a co-author with J. Simons of "Quantum Mechanics in Chemistry, A textbook in quantum chemistry for the beginning graduate student" (1997), and of more than 60 research papers in chemistry and in mathematical and computational applications.
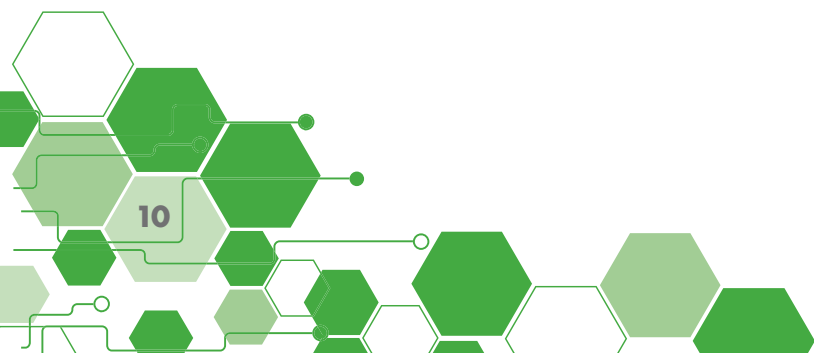
Claire Curry

Bloomberg New Energy Finance

How significant will AI be for the energy sector? Quantifying progress and outlining signposts
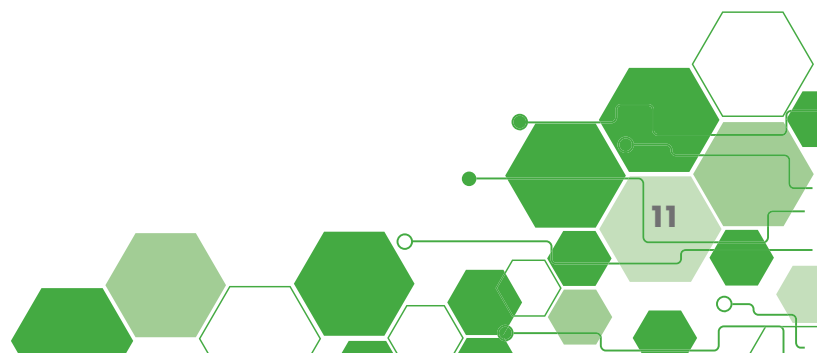
Abstract

The adoption of artificial intelligence in power, oil, gas, manufacturing, and mining is in full swing. Yet the benefits are difficult to quantify, commercial projects are slow to emerge, and there is a high degree of confusion regarding technology providers. Claire will provide an outlook on the sector by reviewing leading AI case studies in industry, showing BloombergNEF (BNEF) analysis quantifying the benefits, and assessing the AI provider landscape.

Bio

Claire Curry leads a team of analysts in the Digital Industry research group at Bloomberg NEF. This global team analyzes developments in digital technologies and business models to assess what impact they might have on the future of electricity, oil & gas, mining and manufacturing. The team's work covers the Internet of Things, data analytics and machine learning, blockchain, cybersecurity, and autonomous robotics. This includes understanding the business strategy of industrials, start-ups, utilities, investors and tech firms.

Previously Claire was a senior member of the advanced transport analyst team at BNEF conducting analysis of lithium-ion battery technologies & costs. Claire regularly presents at conferences, publishes research notes and helps clients navigate the world of start-ups, strategy and technology platforms. Claire holds an MSc from Imperial College's Sustainable Energy Engineering and a Chemistry BSc from Durham University.

Earl Joseph

Hyperion Research

AI Research Update: What's Going On Around The World, And Our Research Plans For Studying AI For Science

Abstract

This presentation will start with some interesting findings from Hyperion Research studies on AI and HPC. Then it will cover highlights on Chinese, Japanese and European plans and activities for AI, Hyperion's plans for researching AI for science, and will conclude with some predictions about the future.

Bio

Earl Joseph, Chief Executive Officer of Hyperion Research, drives research and consulting efforts associated with the United States, Europe and Asia-Pacific markets for technical servers and supercomputers. Dr. Joseph advises Hyperion Research clients on the competitive, managerial, technological, integration and implementation issues for technical servers. He is also heading up Hyperion Research's high-end HPC user forum activities.

His areas of expertise include technical computers from entry-level servers to high-end capability supercomputers, software, storage and networking solutions for technical computing. He has worked for four technical computing companies in multiple marketing and R&D roles. Dr. Joseph has a strong background in computer technologies and future directions in technical computing.

Prior to joining Hyperion Research, Dr. Joseph spent his 35-year career in IT in the HPC market space, most recently at IDC, SGI and Cray Research. He works closely with the leading HPC users around the world on their current and future technical computing plans. Dr. Joseph holds a Ph.D. from the University of Minnesota where his research focus was the strategic management of high technology firms, and an undergraduate degree in business and technology from the University of Minnesota.

Andy Hock

Head of Product, Cerebras Systems

Bio

Dr. Andy Hock is the Head of Product for Cerebras Systems, an AI hardware startup out to accelerate deep learning and change computing forever.

Dr. Hock is a physicist turned AI and analytics product leader. His academic background is rooted in astrophysics and geophysics applied to image processing. After earning a B.S. in Astronomy-Physics from Colgate University and Ph.D. in Geophysics and Space Physics at UCLA, Dr. Hock went on to work as a senior research scientist and senior technical program manager for Arete Associates. At Arete, he developed novel image processing algorithms for a wide variety of sensor systems used for commercial and national security applications. Following that work, Dr. Hock became the senior director for advanced technology and AI at Skybox Imaging, which was subsequently acquired by Google. Most recently before Cerebras, Dr. Hock was the data product lead at Google for the Terra Bella project, using applied machine learning to build data products for enterprise users from satellite imagery.

Dr. Hock joins us today from Cerebras Systems to discuss some of the innovations that led to their recenlty-announced wafer-scale engine -- the world's largest computer chip, purpose-built to accelerate deep learning -- and its implications on AI for science at supercomputer scale.
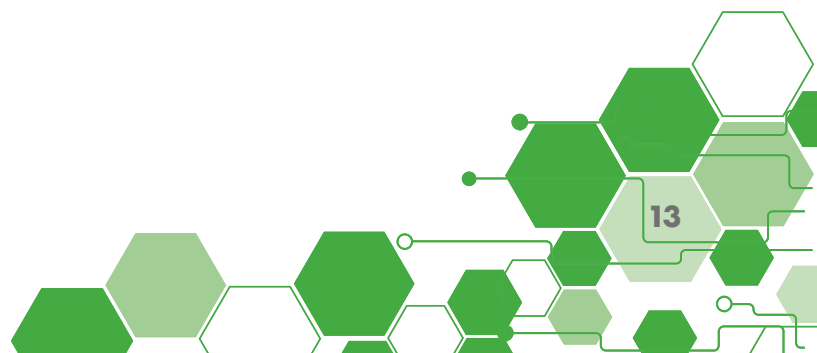
Kunle Olukotun

Co-Founder of SambaNova and Professor of Electrical Engineering and Computer Science, Stanford University

Bio

Kunle Olukotun is co-founder of SambaNova Systems and is the Cadence Design Professor of Electrical Engineering and Computer Science at Stanford University. Olukotun is well known as a pioneer in multi-core processor design and the leader of the Stanford Hydra chip multiprocessor (CMP) research project. Olukotun founded Afara Websystems to develop high-throughput, low-power multi-core processors for server systems. The Afara multi-core processor, called Niagara, was acquired by Sun Microsystems in 2002. Niagara derived processors now power Oracle's SPARC-based servers. Olukotun is the Director of the Pervasive Parallel Lab and a member of the Data Analytics for What's Next (DAWN) Lab which is developing infrastructure for usable machine learning. Olukotun is an ACM Fellow and IEEE Fellow for contributions to multiprocessors on a chip and multi-threaded processor design. Olukotun recently won the prestigious IEEE Computer Society's Harry H. Goode Memorial Award. Olukotun received his Ph.D. in Computer Engineering from The University of Michigan.

Dale Southard

Leader Ecosystems Solutions, Groq

Bio

Dale Southard leads ecosystem solutions at Groq. Before joining Groq, Dale was the Principal System Architect for the Tesla Business Unit of NVIDIA. While at NVIDIA he helped design and stabilize dozens of HPC and AI systems (including leading the CORAL effort for NVIDIA which resulted in the current #1 and #2 systems in the Top500). He was also heavily involved in the initial deployment of GPUs in the Amazon Web Services and other commercial and private clouds. Previously he was the hardware architect for the large scale visualization systems at Lawrence Livermore National Laboratory and an assistant professional specialist faculty member at the University of Notre Dame.
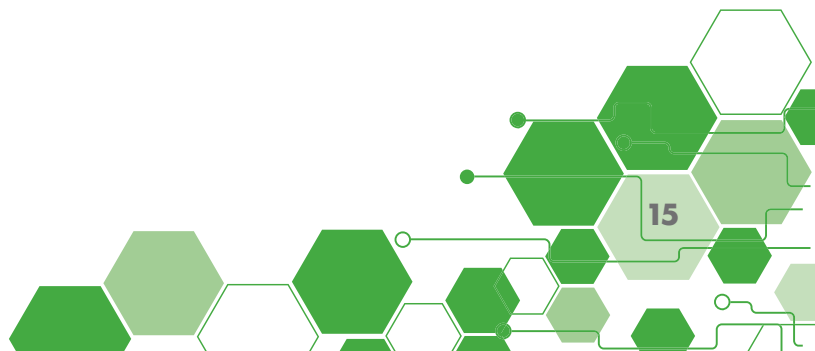
Valerie Taylor

Director of the Mathematics and Computer Science Division, Argonne National Laboratory

Bio

Valerie Taylor is the Director of the Mathematics and Computer Science Division at Argonne National Laboratory.   Prior to joining Argonne National Laboratory, Dr. Taylor was the Senior Associate Dean of Academic Affairs in the College of Engineering and a Regents Professor and the Royce E. Wisenbaker Professor in the Department of Computer Science and Engineering at Texas A&M University. She served as Department Head of Computer Science & Engineering at Texas A&M from 2003 through 2011. Prior to joining Texas A&M, Dr. Taylor was a member of the faculty in the EECS Department at Northwestern University for eleven years. Her research is in the area of high-performance computing, with a focus on performance analysis and modeling of parallel, scientific applications. She is also the Executive Director of the Center for Minorities and People with Disabilities in IT (CMD-IT). Dr. Taylor is an IEEE Fellow, ACM Fellow, and has received numerous awards for distinguished research and leadership, including the 2001 IEEE Harriet B. Rigas Award for a woman with significant contributions in engineering education, the 2002 Outstanding Young Engineering Alumni from the University of California at Berkeley, the 2002 CRA Nico Habermann Award for increasing diversity in computing, and the 2005 Tapia Achievement Award for Scientific Scholarship, Civic Science, and Diversifying Computing. Dr. Taylor earned her B.S. in ECE and M.S. in Computer Engineering from Purdue University in 1985 and 1986, respectively, and a Ph.D. in EECS from the University of California, Berkeley, in 1991.

David Brown

Director of the Computational Research Division,
Lawrence Berkeley National Laboratory

Bio

David Brown has been Director of the Computational Research Division at Berkeley Lab since August 2011. His career with the DOE National Laboratories includes 14 years at Los Alamos National Laboratory (LANL) and 13 years at Lawrence Livermore National Laboratory (LLNL), where he was technical lead of several major research projects and held a number of line and program management positions. Dr. Brown's research expertise and interests lie in the development and analysis of algorithms for the solution of partial differential equations. He is particularly enthusiastic about promoting opportunities in computational science for young scientists from diverse backgrounds and is a founding member of the steering committee for the DOE Computational Graduate Fellowship Program.

Brown earned his Ph.D. in Applied Mathematics from the California Institute of Technology in 1982. He also holds a B.S. in Physics and an M.S. in Geophysics from Stanford University.
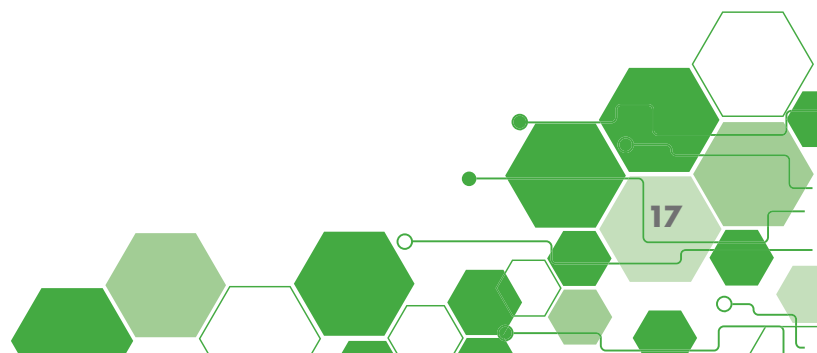
Barney Maccabe

Director of the Computer Science and Mathematics Division, Oak Ridge National Laboratory

Bio

Barney Maccabe currently serves as the Director for the Computer Science and Mathematics Division at Oak Ridge National Laboratory (ORNL). The division has over 100 technical staff conducting research in a wide range of areas, including computational and applied mathematics; discrete systems; data analysis, visualization, management, and engineering; programming models and tools; performance modeling, measurement, and analysis; system software; and emerging technologies. Prior to joining ORNL in January of 2009, Dr. Maccabe served on the Computer Science faculty at the University of New Mexico where he also served as director of the UNM Center for High Performance Computing and the CIO for the university. As a professor, he graduated 11 PhDs and 9 Masters working in the general area of computing systems. Much of his work has focused on the research related to lightweight approaches in HPC systems. Working in collaboration with staff at Sandia National Laboratories, he was involved in the design and development of a series of lightweight operating systems, starting with SUNMOS (Sandia-UNM OS) for the Intel Paragon back in 1990. This collaboration has grown over the years to include a large collection collaborators with a current emphasis on lightweight virtualization technologies aimed at supporting application composition in HPC systems.

Barney earned his B.S. in Mathematics from the University of Arizona in 1977 and his M.S. and Ph.D. in Information and Computer Sciences from the Georgia Institute of Technology in 1980 and 1982, respectively.
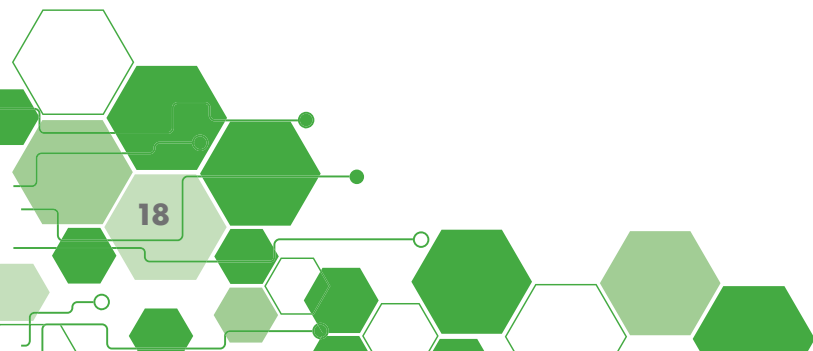
Lynne Parker

Assistant Director for Artificial Intelligence, White House Office of Science and Technology Policy

Bio

Dr. Lynne E. Parker is Assistant Director for AI at the White House Office of Science and Technology Policy (OSTP). In this role, she is the White House lead for AI policy and engages with numerous stakeholders to accelerate advances in AI for economic growth, improved quality of life, and national security. Dr. Parker helped lead the development of President Trump's Executive Order establishing the American Artificial Intelligence Initiative, which bolsters research, governance, and education and workforce training around AI. She is now overseeing the implementation of this Initiative. She also oversaw the interagency process that recently released the National AI R&D Strategic Plan: 2019 Update.

Prior to joining OSTP, Dr. Parker was Interim Dean of the Tickle College of Engineering at the University of Tennessee, Knoxville (UTK), and Professor in UTK's Electrical Engineering and Computer Science Department. Dr. Parker previously served as the NSF's Division Director for Information and Intelligent Systems, where she oversaw NSF's investments in AI. Prior to joining UTK, she worked as a Distinguished R&D Staff Member at ORNL.

Dr. Parker is a world-leading expert on distributed and intelligent robot systems, human-robot interaction, and AI with over 140 peer-reviewed papers on these and related subjects. She has taught many graduate and undergraduate courses on AI, machine learning, robotics, algorithms, and related topics. Dr. Parker received her PhD in computer science from MIT and received the U.S. Presidential Early Career Award for Scientists and Engineers (PECASE). She is a Fellow of AAAS (American Association for the Advancement of Science) and a Fellow of IEEE (Institute of Electrical and Electronics Engineers).
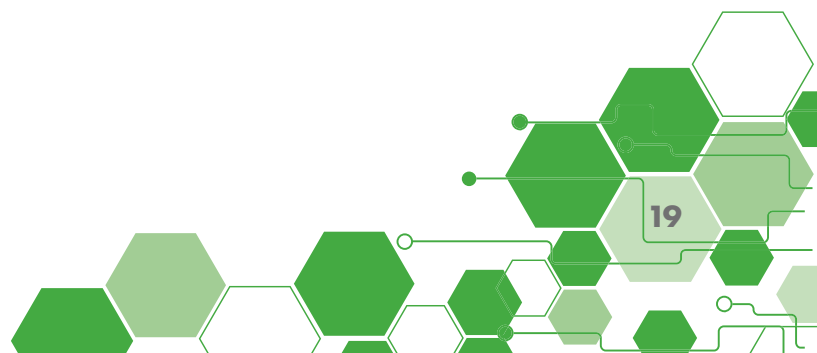
Steve Binkley

Deputy Director for Science Programs, Office of Science, Department of Energy

Bio

J. Stephen (Steve) Binkley is the Deputy Director for Science Programs in the Office of Science at the U.S. Department of Energy (DOE). In this capacity, Dr. Binkley is the senior career science official in the Office of Science, which is third largest Federal sponsor of basic research in the United States, the primary supporter of the physical sciences in the U.S., and one of the premier science organizations in the world.

As Deputy Director for Science Programs, Dr. Binkley provides scientific and managerial oversight for the six science programs of the Office of Science (basic energy sciences, biological and environmental research, fusion energy sciences, advanced scientific computing research, high energy physics, and nuclear physics), for workforce development for teachers and scientists, and for construction project assessment. The Office of Science supports research at 300 colleges and universities nationwide, at DOE laboratories, and at other private institutions.
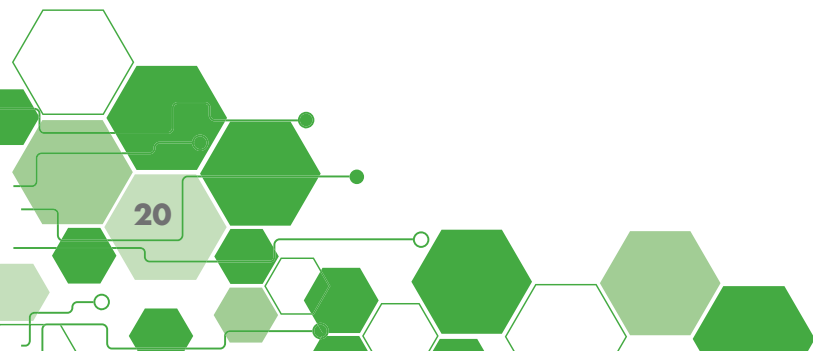
Adam Cardinal-Stakenas

Chief of the Data Science Research Division,
Department of Defense, National Security Agency
Research

Bio

Dr. Adam Cardinal-Stakenas is the Chief of the Data Science Research Division in NSA's Computer and Analytic Sciences Research Group. Previously he was on the research staff of the Mathematics Research Group working on machine learning and data science problems. He has a Ph.D. in Applied Mathematics and Statistics from the Johns Hopkins University.
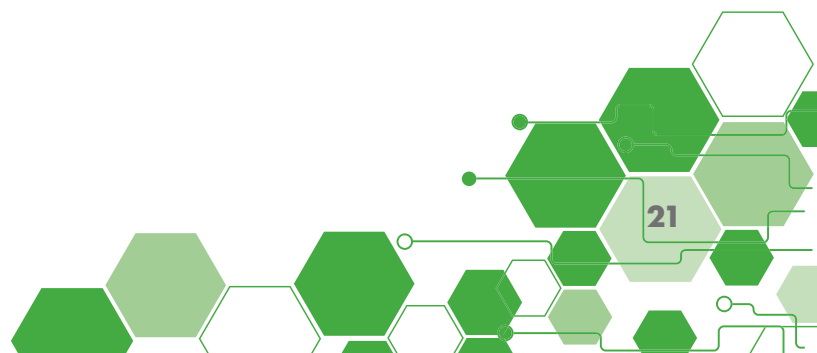
Erwin Gianchandani

Acting Assistant Director for Computer and Information Science and Engineering, National Science Foundation

Bio

Dr. Erwin Gianchandani is the National Science Foundation's (NSF) Acting Assistant Director for Computer and Information Science and Engineering (CISE). In this role, he guides the CISE directorate in its mission to advance the nation's leadership in computer and information science and engineering through its support for fundamental and transformative research, the development and use of cyberinfrastructure across the science and engineering enterprise, and the education of a diverse workforce of researchers and practitioners. He oversees strategic and human capital planning, formulation and implementation of the directorate's nearly $1 billion annual budget, and day-to-day operations. He has served as the NSF/CISE Deputy Assistant Director since 2015 and has led the development, launch, and implementation of several new NSF investments, including Smart & Connected Communities, Platforms for Advanced Wireless Research, and the National Artificial Intelligence Research Institutes.

Before joining NSF in 2012, Dr. Gianchandani was the inaugural Director of the Computing Community Consortium (CCC), providing leadership to the computing research community in identifying and pursuing audacious, high-impact research directions. Prior to that, he was the Director of Innovation Networking at the University of Virginia, reporting to the university's Vice President for Research.

Dr. Gianchandani has authored or co-authored numerous publications in computational systems modeling of biological networks, with the goal of understanding disease mechanisms and identifying therapeutic targets. He earned his Ph.D. and M.S. in biomedical engineering and his B.S. in computer science from the University of Virginia.

Susan Gregurick

Associate Director for Data Science and Director of the Office of Data Science Strategy, National Institutes of Health

Bio

Susan K. Gregurick, Ph.D., was appointed Associate Director for Data Science and Director of the Office of Data Science Strategy (ODSS) at the National Institutes of Health on Sept. 16, 2019. Under Dr. Gregurick's leadership, the ODSS leads the implementation of the NIH Strategic Plan for Data Science through scientific, technical, and operational collaboration with the institutes, centers, and offices that comprise NIH. Dr. Gregurick was instrumental in the creation of the ODSS in 2018 and served as a senior advisor to the office until being named to her current position.

Dr. Gregurick was previously the Division Director for Biophysics, Biomedical Technology, and Computational Biosciences at the National Institute of General Medical Sciences. Prior to joining the NIH in 2013, Dr. Gregurick was a program director in the Office of Biological and Environmental Research at the Department of Energy.

Before beginning a career of government service, Dr. Gregurick was a professor of computational chemistry at the University of Maryland, Baltimore County. Her research interests included dynamics of large biological macromolecules, and her areas of expertise are computational biology, high performance computing, neutron scattering and bioinformatics.

Dr. Gregurick received her undergraduate degree in chemistry and mathematics from the University of Michigan and her Ph.D. in physical chemistry from the University of Maryland.