

## **SC13 Invited Talks: Attendees to Hear the Latest from the Best in the Field**



DENVER, CO — Fifteen speakers from across HPC and the world of science — including a Nobel Laureate and a US National Medal of Science Winner — are set to share their unique perspectives with the international supercomputing community as part of the invited talks program at SC13 this November. Hosted in Denver, CO, SC is an international conference for high performance computing, networking, storage and analysis.

Over the years, SC conferences have featured invited talks under various names such as Masterworks, plenary talks and state of the field. These invited talks provide a longer-term perspective than individual research papers, and put multiple research insights into broader context. At SC13 attendees will hear about the hardest challenges, the latest innovations in supercomputing and data analytics, and how new approaches are addressing the toughest and most complex questions of our time.

This year's slate of 15 invited speakers will address every aspect of HPC, the ways in which HPC and supercomputing are shaping modern scientific and engineering discovery, and the ways in which HPC is shaping the relationship among nations:

- **Data, Computation, and the Fate of the Universe:** 2011 Nobel Laureate Saul Perlmutter will reach into the past to explain how integrating big data — and careful analysis — led to the discovery of the acceleration of the universe's expansion. He will go on to discuss the increasing importance and impact of coupling scientists with data, analysis, and simulation to gain future insights.

- **Climate Earth System Modeling for the IPCC Sixth Assessment Report (AR6) - Higher Resolution and Complexity:** 2010 National Medal of Science Winner, Warren Washington, will review the challenges facing users of the Community Earth System Model (CESM) for climate and Earth system simulations in the next round of simulations needed to understand evolving climate conditions. Not only will the treatment of physical processes will be more complex and tightly coupled to other components, HPC systems will be much faster and more difficult to efficiently use. Some preliminary simulations will be presented with computational details.
- **Big Data + Big Compute = an Extreme Scale Marriage for Smarter Science?** Northwestern University's Alok N. Choudhary will address the fundamental question, "*What are the challenges and opportunities for extreme scale systems to be an effective platform?*" for not only traditional simulations, but their suitability for data-intensive and data-driven computing to accelerate time to insights.
- **The Interplay between Internet Security and Scale:** Internet Security poses fundamentally hard problems due to its adversarial nature, but the challenges become especially complex at large scales. The University of California at Berkeley's Vern Paxson will examine a range of such scaling issues: network speed, traffic volume, user diversity, forensic analysis, and difficulties that attackers themselves face.

For more information and a complete list of speakers, visit the Invited Talks section of the SC13 website at <http://sc13.supercomputing.org/content/invited-talks-0> [1].

## About SC13

SC13, sponsored by the ACM (Association for Computing Machinery) and the IEEE Computer Society, offers a complete technical education program and exhibition to showcase the many ways high performance computing, networking, storage and analysis lead to advances in scientific discovery, research, education and commerce. The conference includes a globally attended technical program, workshops, tutorials, a world-class exhibit area, demonstrations and opportunities for hands-on learning. For more information on SC13, please visit: <http://sc13.supercomputing.org> [2]

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