

SC16: INDIS Workshop Call for Papers

Innovating the Network for Data Intensive Science (INDIS)

The 3rd International Workshop on Innovating the Network for Data Intensive Science (INDIS) 2016, in conjunction with SC16: IEEE/ACM International Conference for High Performance Computing, Networking, Storage and Analysis, in Salt Lake City, Utah, on November 13, 2016, 9h00 – 17h00.

Call for papers:

We invite full original papers to be submitted via the FGCS submission system.

- On-line Journal: <http://www.sciencedirect.com/science/journal/0167739X>
- Journal Description: <http://www.elsevier.com/locate/fgcs>
- Electronic Submission: <http://ees.elsevier.com/fgcs>

Workshop website: <https://scinet.supercomputing.org/workshop/>

Note also the call for Network Research Environment demos on the SCinet website!

Workshop Scope:

Science is making the transition from Data-poor to Data-rich. Where in the past only limited experimental data was compared to big amounts of simulation-generated data at Supercomputing centers, we now see those centers transform into big data stream processing nodes. Wide area networks are now an integral and essential part of the data driven Supercomputing ecosystem connecting information-sources, data-stores, processing, simulation, and visualization and user communities together. Further networks are required to connect research instruments such as photon sources, and large visualization displays.

Networks for data-intensive science have more extreme requirements than general-purpose networks. These requirements closely impact the design of processor interconnects in supercomputers/cluster computers, but they also impact campus networks, regional networks and national backbone networks.

The developments in network technology are tremendous. Speeds of many 100's of Gigabit and deep programmability of network infrastructure are now common. This enables a fundamentally different approach of integrating networks in Supercomputing applications.

This workshop encourages research papers that address one or more of these needs that are essential in the scientific discovery process. This workshop will also serve as a platform for participants in SCinet to present experimental papers on their latest designs and solutions. SCinet is the high-speed network engine of the SC conference. This network is state of the art, connects many demonstrators of big science data processing infrastructures at the highest line speeds, deploys the newest technologies available, and demonstrates novel functionality. The show floor

network connects to many laboratories and universities worldwide using high-bandwidth connections.

This workshop brings together SCinet engineers and network researchers to share challenges and potential solutions. Their novel ideas will allow future SCinets to stretch their deployed technologies and further drive new network research. We invite papers that propose new and novel techniques that increase the capacity and functionality of scientific computing and wide-area networks.

Topics of interest include but are not limited to:

- High-speed network protocols
- Network architectures
- Securing high-speed networks
- High performance data transfer applications and techniques
- Science DMZs and other campus network constructs
- Software-defined networking , OpenFlow and NFV
- Optical networking
- Network monitoring and traffic analytics
- Requirements and issues for network quality of service (QoS)
- HPC interconnects: topologies and protocols for supercomputers and cluster computers
- Storage area networks
- Network management: diagnostics, troubleshooting, fault management, performance monitoring, configuration management
- Multi-domain networking

Important Dates:

Paper Submission due: August 21, 2016
Notification of acceptance: October 1, 2016
Workshop-Ready version due: November 1, 2016
Workshop Date: November 13, 2016
Camera-Ready version due: January 15, 2017

Submission Guidelines:

Authors should prepare their manuscript according to the Guide for Authors available from the online submission page of the Future Generation Computer Systems at <http://ees.elsevier.com/fgcs/> .

Authors should select "SI: SC16 - INDIS" when they reach the "Article Type" step in the submission process. Reviewing of the full papers will be done by the program committee. At least one of the authors of an accepted paper should register and present the paper. Accepted papers will be included in the proceedings and will be available through Elsevier FGCS.

Registration: SC'16 workshop registration is handled through the SC'16 system.

Please visit <http://sc16.supercomputing.org> for more information.

If you have any further questions, please email:

scinet-workshop@scinet.supercomputing.org

Workshop Organizers:

- **Cees de Laat:** Professor System and Network Engineering, University of Amsterdam, The Netherlands.
- **Brian L. Tierney:** Staff Scientist and Group Leader of the ESnet Advanced Network Technologies Group at Lawrence Berkeley National Laboratory.
- **Paola Grosso:** Assistant professor in the System and Network Engineering (SNE) group at the University of Amsterdam, The Netherlands.
- **Malathi Veeraraghavan:** Professor, Charles L. Brown Dept. of Electrical and Computer Engineering, and Associate Director, Infrastructure and Services, Data Science Institute, University of Virginia.

Liaisons:

- **Mehmet Balman:** Liaison to the NDM committee, VMware Inc. & Lawrence Berkeley National Laboratory, USA.
- **Sylvia Kuijpers:** Liaison to communications, SURFnet, The Netherlands, SCinet team-member INDIS.

Program Committee:

- Pavan Balaji, Argonne National Laboratory and Northwestern University, USA
- Mehmet Balman, VMware Inc. & Lawrence Berkeley National Laboratory, USA
- Virginia Bedford, US Army Corps of Engineers, USA
- Surendra Byna, Lawrence Berkeley National Laboratory, USA
- Jerry Chou, National Tsing Hua University, Taiwan
- Zhihui Du, Tsinghua University, China
- Kartik Gopalan, State University of New York at Binghamton, USA
- Paola Grosso, University of Amsterdam, The Netherlands.
- Zhiyi Huang, University of Otago, New Zealand
- Raj Kettimuthu, Argonne National Laboratory and University of Chicago, USA
- Cees de Laat, University of Amsterdam, The Netherlands.
- Jino Kim, Texas A&M University-Commerce, USA
- Siva Kulasekaran, Texas Advanced Computing Center, USA
- Kate Mace, ESnet, USA
- Manish Parashar, Rutgers University, USA
- Eric Pouyoul, Energy Sciences Network and Lawrence Berkeley Lab, USA
- Corby Schmitz, Argonne National Lab/ Loyola University, Chicago, USA
- Jennifer Schopf, Indiana University, USA
- Martin Swany, Indiana University, USA
- Brian L. Tierney, ESnet, Lawrence Berkeley National Laboratory, USA
- Malathi Veeraraghavan, University of Virginia, USA
- Venkat Vishwanath, Argonne National Laboratory, USA
- Linda Winkler, Argonne National Lab
- Wenji Wu, Fermilab, USA
- Lei Xia, LinkedIn, USA
- Esma Yildirim, Fatih University, Turkey
- Yufei Ren, IBM, Watson, USA
- Matthew J Zekauskas: Senior researcher, Internet2, USA

*** Please forward to anyone who might be interested ***