

*Proceedings of*

**INDIS 2015, the Second Workshop on  
Innovating the Network for Data-  
Intensive Science**



Held in conjunction with

**SC15: The International Conference for High  
Performance Computing, Networking,  
Storage and Analysis**

Austin, Texas, November 15-20, 2015



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**Network Operating Systems for SDN Applications;** Inder Monga

### **Papers:**

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**High Speed Scientific Data Transfers using Software Defined Networking;** Harvey Newman, Azher Mughal, Dorian Kcira, Iosif Legrand, Ramiro Voicu and Julian Bunn

**SCinet: 25 Years of Extreme Networking;** Linda Winkler

**Optimizing Data Transfer Nodes using Packet Pacing;** Nathan Hanford, Brian Tierney and Dipak Ghosal

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## **INDIS 2015 Chairs' Welcome**

Welcome to INDIS 2015, the Second Workshop on Innovating the Network for Data-Intensive Science to be held on November 16, 2015, in conjunction with the International Conference for High Performance Computing, Networking, Storage and Analysis (SC'15), in Austin, TX, USA.

The Supercomputing conference series has traditionally been home to cutting-edge developments in high-performance networking (HPN), alongside those in high-performance computing, storage, and analytics. This workshop's goal is to highlight the work of the experiments running over SCinet, the conference's dedicated high performance network. SCinet serves as the platform for exhibitors to demonstrate the advanced computing resources of their home institutions and elsewhere by supporting a wide variety of bandwidth-driven applications, including supercomputing and cloud computing.

The format of the workshop consists of:

- A panel featuring several of the SC15 SCinet "Network Research Exhibition" demonstrations, who will present the innovations that will be demonstrated in the booths and discuss their influences on the composition of SCinet's future services and experimental test beds.
- An invited keynote
- Presentations of peer-reviewed papers.

The program will start with the panel. Then Inder Monga, Lawrence Berkeley National Lab, will present the keynote speech titled "Network Operating Systems for SDN Applications".

The review process involved at least 3 reviews for each submission. We ranked the

review scores and selected high-quality papers that best fit into the workshop program. Based on the review results, we accepted 4 papers.

We would like to thank the INDIS 2015 authors for providing high-quality paper contributions. We also thank our program committee members for reviewing papers and providing feedback to the authors.

We post presentation slides from papers and invited talks online at:  
<https://scinet.supercomputing.org/workshop/>