



Advanced Data Center Architectures and Technologies

December 4, 2018

Stanford University

Mackenzie Conference Room

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Tuesday, December 4, 2018

Agenda

8:00 am Introduction & Objectives Waguih Ishak, SPRC

Data Center Architectures I

8:15	Top Trends Impacting Data Centers	Lindsey Theis, Corning
8:45	Requirements for Next Generation Data Center Networks: @Scale & Robust	Hans-Juergen Schmidtke and Sarah Hanna, Facebook Mike Kauffman, Facebook
9:15	Data Center Architectures: Driving the Need for Heterogenous Integration	Greg Fish, Juniper Networks

9:45 am Break

Data Center Architectures II

10:15	A Realistic Architecture for Data Center Photonic Switching	Eric Bernier, Huawei
10:45	Next-generation Data Center Challenges	Manya Ghobadi, MIT
11:15	Facebook Data Center Design	Mike Kauffman, Facebook

11:45am Lunch & Poster Session

Technologies for Data Centers I

1:00pm	Opening Remarks	Tish Shute, Futurewei
1:05pm	Coherent Co-packaged Optical Interfaces for Next-Generation Electrical Switches	Joseph Kahn, Stanford
1:30pm	Saving Energy and Increasing Density in Information Communications and Processing Using Photonics	David Miller, Stanford
1:55pm	Rotornet: A Scalable Optical Network for Data Centers	George Papen, UCSD
2:20pm	Realities and Challenges of III-V/Si Photonic Integration Technologies for Tbps Transceivers and Sensors	John Bowers, UCSB

3:05pm Break



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Technologies for Data Centers II

3:30pm	Integrated Lithium Niobate Photonics for Energy-Efficient and High-Bandwidth Optical Links	Marko Loncar, Harvard
3:55pm	Storage Technologies for Data Centers	John Morris, Seagate
4:20pm	Nanophotonic Structures for Computing	Shanhui Fan, Stanford
4:45pm	Inverse Design of Better Photonics	Jelena Vuckovic, Stanford
5:10pm	Reconfigurable and Nonreciprocal Optical Metamaterials	Jennifer Dionne, Stanford
5:35pm	Closing Remarks	
5:45pm	Reception & Poster Session	