



## IEE EMERGING TECHNOLOGIES REVIEW

### Future Data Center Architectures and Increased Energy Efficiency

TIME	SESSION	SPEAKERS
9:00 AM – 9:20 AM	Welcome, Goals of Workshop, and IEE Overview	John Bowers, UCSB Katharine Schmidtke, Meta
9:20 AM – 9:45 AM	<i>Problems Faced by Data Centers Today and Future Needs</i>	Katharine Schmidtke, Meta
<b>Session 1: AI/ML System and Workload Optimization   Moderator: Bharath Muthiah, Meta</b>		
9:45 AM – 10:00 AM	<i>AI Use Cases and Deployments Today, and Problem Statement for Future</i>	Bharath Muthiah, Meta
10:00 AM – 10:15 AM	<i>AI Cluster Trends</i>	Robert Ober, NVIDIA
10:15 AM – 10:30 AM	<i>Accelerators are Green; Cloud Accelerators are Greener</i>	Cliff Young, Google
10:30 AM – 10:45 AM	<i>Trends in Accelerated Computing</i>	Frank Helms, AMD
10:45 AM – 11:00 AM	<i>Compiler and Runtime Support for Exploring AI-GPU Acceleration</i>	Yufei Ding, UCSB
11:00 AM – 11:15 AM	<i>Energy Efficient Training Fabric</i>	Surendra Anubolu, Broadcom
11:15 AM – 11:30 AM	<i>High-Performance Training and Inference on GPUs for NLP Models</i>	Lei Li, UCSB
11:30 AM – 12:30 PM	<b>Round Table Discussion</b> Panelists: Presenters & Dheevatsa Mudigere, Meta	<b>Moderator:</b> <b>Bharath Muthiah, Meta</b>
12:30 PM – 1:00 PM	Lunch	



**Session 2: Interconnect Optimization | Moderator: Rob Stone, Meta**

1:00 PM – 1:15 PM	<i>Optical Interconnects in Data Centers: Drivers and Application Spaces</i>	Rob Stone, Meta
1:15 PM – 1:30 PM	<i>Co-Packaged Optics in Future Server Designs</i>	Ram Huggahalli, Microsoft
1:30 PM – 1:45 PM	<i>Scaling Highly Integrated Optical Interconnects</i>	Manish Mehta, Broadcom
1:45 PM – 2:00 PM	<i>High Volume Silicon Photonics for Co-Packaged Optics and Optical I/O</i>	Thomas Liljeberg, Intel
2:00 PM – 2:15 PM	<i>Data Center Energy Savings in this Decade</i>	Chris Cole, Parallax Group
2:15 PM – 2:30 PM	<i>Bringing Low-Power O-Band Coherent Optics to the Datacenter</i>	Clint Schow, UCSB
2:30 PM – 2:45 PM	<i>Meta Data Centers Heterogenous Integration Driven by AI/ML and Network Applications</i>	Ravi Agarwal, Meta
2:45 PM – 3:00 PM	<i>High Capacity, Energy Efficient Interconnects for Data Centers</i>	John Bowers, UCSB
3:00 PM – 4:00 PM	<b>Round Table Discussion</b>	<b>Moderator: Rob Stone, Meta</b>