

SESSION 1: STREAMING DATA ANALYSIS

Location: Eisner & Lubin Auditorium (4th floor)

Kerstin Kleese van Dam, Chair

Director of BNL'S Computational Science Initiative (CSI)

TIME	SPEAKER	TITLE
8:45-9:00 am	WELCOME REMARKS: Kerstin Kleese van Dam, Director of BNL'S Computational Science Initiative (CSI)	
9:00-9:45 am	KEYNOTE: Kevin Yager, Brookhaven National Laboratory (BNL)	"Exploiting Deep Learning for Automated Synchrotron Experiments"
9:45-10:20 am	John Wu, Lawrence Berkeley National Laboratory (LBNL)	"Statistical Data Reduction for Streaming Data"
10:20-10:50 am	<i>Break</i>	
10:50-11:25 am	Jun Wang, Stony Brook University (State University of New York)	"Incremental Clustering of Big Data with GPU Acceleration and Visualization"
11:25-12:00 pm	Michael DePhillips, BNL	"A Case for High-Bandwidth Monitoring"
12:00-12:35 pm	Yuzhong Yan, Prairie View A & M University	"Implementing a Distributed Volumetric Data Analytics Toolkit on Apache Spark"
12:35-2:00 pm	<i>Lunch on your own</i>	
2:00-2:35 pm	Chiwoo Park, Florida State University	"In situ Analytics of High Frame-rate Image Streaming"
2:35-3:10 pm	Nikolay Malitsky, BNL and Aashish Chaudhary, Kitware	"Building Near-Real-Time Processing Pipelines with the Spark-MPI Platform"

SESSION 2: AUTONOMOUS EXPERIMENTAL DESIGN AND OPTIMIZATION

Frank Alexander, Chair

Deputy Director of BNL'S Computational Science Initiative (CSI)

TIME	SPEAKER	TITLE
3:10-3:55 pm	KEYNOTE: Shantenu Jha, Rutgers University	"Building Blocks for Adaptive Workflows"
3:55-4:25 pm	<i>Break</i>	
4:25-5:00 pm	Kristofer Reyes, New York State University at Buffalo	"Closed-loop Autonomous Research Systems (ARES)"
5:00-5:35 pm	Michael McKerns, SBU	"Is Automated Materials Design and Discovery Possible?"
	<i>Dinner on your own</i>	

SESSION 3: PERFORMANCE FOR BIG DATA

Location: Eisner & Lubin Auditorium (4th floor)

Barbara Chapman, Chair

Director of BNL'S Computer Science and Mathematics Department,
Professor of Applied Mathematics & Statistics and Computer Science at Stony Brook University (SBU)

TIME	SPEAKER	TITLE
9:00-9:45 am	KEYNOTE: Peter Beckman, Argonne National Laboratory (ANL)	“The Convergence of Extreme Computing and Big Data: From Edge Computing to Exascale”
9:45-10:20 am	Hamid Reza Assadi, SBU	“Comparative Study of Deep Learning Framework in HPC Environments”
10:20-10:55 am	<i>Break</i>	
10:55-11:30 am	Eric Stephan, Pacific Northwest National Laboratory (PNNL)	“A Scientific Data Provenance Harvester for Distributed Applications”
11:30-12:05 pm	James Jeffers, Intel	“Improving Large Scale Visual Data Analysis using Intel Supported Software Defined Visualization Solutions”
12:10-1:40 pm	<i>Lunch on your own</i>	
1:45-2:20 pm	Sameera Abeykoon, BNL	“Parallelizing X-ray Photon Correlation Spectroscopy Software Tools Using Python Multiprocessing”
2:20-2:55 pm	Geoffrey Fox, Indiana University	“A Tale of Two Convergences: Applications and Computing Platforms”
2:55-3:25 pm	<i>Break</i>	
3:25-4:00 pm	Zichao (Wendy) Di, ANL	“Multigrid Approach for Tomographic Reconstruction”
4:00-4:35 pm	Line Pouchard, BNL	“Capturing Provenance as a Diagnostic Tool for Workflow Performance Evaluation and Optimization”
4:35-5:10 pm	Ryan Quick, Providentia Worldwide	“Event Stream Optimization for Big Data Stream Analytics”
5:30-6:45 pm	<i>Poster Session</i>	Location: Room 914 (9th Floor)
7:00-9:00 pm	<i>Dinner</i>	Location: Rosenthal Pavilion (10th Floor)
	KEYNOTE, DINNER SPEAKER: Peter Coveney, University College London	“Big Theory for Big Data”

SESSION 4: EXTREME SCALE DATA

Location: Eisner & Lubin Auditorium (4th floor)

Nicholas D'Imperio, Chair

Director of BNL'S Computational Science Laboratory

TIME	SPEAKER	TITLE
9:00-9:45 am	KEYNOTE: James Ahrens, Los Alamos National Laboratory (LANL)	"Supercharging the Scientific Process via Data Science at Scale"
9:45-10:20 am	Jialin Liu, National Energy Research Scientific Computing /LBNL	"Searching for Millions of Objects in the BOSS Spectroscopic Survey Data with H5Boss"
10:20-10:50 am	<i>Break</i>	
10:50-11:25 am	Dantong Yu, New Jersey Institute of Technology	"Robust and Scalable Deep Learning for X-ray Synchrotron Image Analysis"
11:35 am	CLOSING REMARKS: Robert J. Harrison, Director of Institute for Advanced Computational Science (IACS), and Chief Scientist at BNL, CSI	