

The background features a dark blue gradient with a series of curved, glowing lines that create a sense of depth and movement. A grid of light blue lines is visible in the lower right quadrant, suggesting a digital or data-related theme.

# NASPI Panel Discussion: Big Data Analytics Platform Architecture Requirements and Analysis Techniques

NASPI WORK GROUP MEETING APRIL 2019

# Big Data Platforms – Evolving with Modern Technologies to meet the future needs of Synchronphasor Data Analytics

## ARCHIVE PLATFORMS

- Synchronphasor data collection platforms were established for the needs of their times.
- Phasor Data Concentrators (PDCs) and historical data storage archive strategies need to evolve as technology changes.

## ANALYTICS STRATEGIES

- Synchronphasor data analytics are typically developed off-platform on stand alone applications.
- Ease of data access and advanced analytic techniques must evolve with ever-changing data use cases and use discoveries.

## PANELIST: Sean Patrick Murphy, PingThings, Inc., USA

Sean Patrick Murphy is the co-CEO and of PingThings, Inc., the creators of the universal sensor analytics platform bringing AI to the nation's electric grid. After earning dual undergraduate degrees with honors in mathematics and electrical engineering from the University of Maryland College Park, Sean completed his graduate work with honors in biomedical engineering at Johns Hopkins University.

He stayed on as a senior scientist at the JHU Applied Physics Laboratory for over a decade, where he focused on machine learning, high-performance and cloud-based computing, and anomaly detection.

He then completed with Distinction his MBA from Oxford University and built an email analytics startup and a data sciences consulting firm. He has authored multiple books and several dozen papers in multiple academic fields.

He also co-founded and served as a board member for Data Community DC, helping to grow the community of data practitioners to over 20,000 members.



## PANELIST: Tom Anderson, SAS

Tom Anderson is a Principal Systems Engineer with the SAS US Energy Division. His 20+ years of analytical experience includes 20 years with SAS with a focus on advanced analytics and data management in both Utilities and Oil and Gas.

Recent achievements include analytic solutions in Asset Performance Analytics with one patent on transformer asset health and two pending in patents, one in the areas of utility distributed forecasting and asset monitoring.



## PANELIST: Viktor Litvinov, GRT

Mr. Litvinov is an accomplished entrepreneur skilled in startup, business development, and operations taking vision to practical concept through successful implementation.

He led both national and international programs including Business Intelligence, Advanced Analytics and Information Security.

Mr. Litvinov founded and led several successful startups including GRT Corporation that was included in Deloitte & Touche Technology 50 and 500 list and Inc.500 Fastest Growing Companies list. Mr. Litvinov carries Ernst & Young Entrepreneur of the Year Award.

Prior to founding GRT, Mr. Litvinov had over fifteen years' experience in senior software engineering and management positions.

He holds an MS degree in Electrical Engineering.



## PANELIST: Dr. Anamitra Pal, Arizona State University

Anamitra Pal is an Assistant Professor in the School of Electrical, Computer, and Energy Engineering at Arizona State University (ASU). He received his Bachelor of Engineering (B.E.) degree (summa cum laude) in Electrical and Electronics Engineering from Birla Institute of Technology, Mesra, Ranchi (India) in 2008 and his M.S. and Ph.D. degree in Electrical Engineering from Virginia Tech, Blacksburg, in 2012 and 2014, respectively.

From 2014-2016, Dr. Pal was an Applied Electrical and Computer Scientist in the Network Dynamics and Simulation Science Laboratory at the Biocomplexity Institute of Virginia Tech.

His current research interests include wide area measurements-based protection, monitoring, and control, critical infrastructure resiliency assessment, and performing transient and dynamic stability analysis in renewable-rich systems. Dr. Pal was the recipient of the 2018 Young CRITIS Award for his contributions to Critical Infrastructure Protection.



# PANELIST: Dr. Deepjyoti Deka, Los Alamos National Laboratory

Dr. Deepjyoti Deka is a staff scientist in the Applied Mathematics and Plasma Physics group of the Theoretical Division at Los Alamos National Laboratory, where he was previously a postdoctoral research associate at the Center for Nonlinear Studies and affiliated.

His research interests include the design and data-analysis of power grid structure, operations and security, and optimization in social and physical networks.

At LANL, Dr. Deka serves as a co-principal investigator for DOE-GMLC project on machine learning in distribution systems and LANL LDRD projects in cyber-physical security.

Before joining the laboratory he received the M.S. and Ph.D. degrees in electrical engineering from the University of Texas, Austin, TX, USA, in 2011 and 2015, respectively and an undergraduate degree in electrical engineering from IIT Guwahati, India.

