



**23rd Annual
CASIS Workshop 2019
May 15, 2019
HPC Innovation Center, Livermore Valley Open Campus
8:00AM – 5:30 PM**

| 2019 REGISTRANT | 2019 PRESENTATION/POSTER TITLE | SESSION | TIME |
|--|--|-----------------------------------|----------------|
| Dave Chambers | Welcome to CASIS 2019! | | 7:55 AM |
| Christina Morency | Electromagnetic wave propagation based upon spectral-element method | Geophysics Signal Processing | 8:00 AM |
| Saptarshi Mukherjee, Christina Morency | Finite frequency sensitivity kernels for multi scale electromagnetic imaging applications, | Geophysics Signal Processing | 8:20 AM |
| Christina Morency, Saptarshi Mukherjee | Seismic to Electric Conversion: a Tool for Earth Subsurface Characterization | Geophysics Signal Processing | 8:40 AM |
| Timothy La Fond | Dynamic Graph Clustering with Variable Time Resolution | Graph Theory | 9:00 AM |
| Jose Cadena, Goran Konjevod | Learning the Nodes of a Graph from Interactions | Graph Theory | 9:20 AM |
| Clifford Anderson-Bergman | Latent Hub Networks | Graph Theory | 9:40 AM |
| | Break | | 10:00 AM |
| Brenden Petersen | A very short Tutorial on Deep Reinforcement Learning | Machine Learning 1 | 10:20 AM |
| Laura Kegelmeyer | Evolution of Machine Learning for NIF Optics Inspection | Machine Learning 1 | 10:50 AM |
| Qi Cheng, Alan Kaplan, Geoffrey Manley, "Track TBI Consortium" | Similarity Data Based TBI Patient Stratification and Feature Selection | Applications of Signal Processing | 11:20 AM |
| Philip Top, Emma Stewart | Applications of Signal Processing in Power Systems Research at LLNL | Applications of Signal Processing | 11:40 AM |
| | Lunch | | 12:00 PM |
| Professor Rick S. Blum Keynote Speaker | Keynote Address: Cyber Attacks on Internet of things Sensor Systems for Inference. | Lehigh University | 1:00 PM |
| David J. Erskine | A 1000x Stabler Spectrograph using an Interferometer with Crossfaded Delays | Poster 1 | 2:00 PM |
| Randy Roberts, John Goforth, George Weinert, Charles Grant et al. | Automated Annotation of Satellite Imagery using Model-based Projections | Poster 2 | 2:00 PM |
| George Weinert, Mike Zelinski, Max Klein | Synthetic Datasets of Overhead Imagery for Deep Learning | Poster 3 | 2:00 PM |
| Igor Borovikov, Jesse Harder, Michael Sadosky Krasnoyarsk, Ahmad Beirami | Towards Representative Metric of Behavior Style in Imitation and Reinforcement Learning | Poster 4 | 2:00 PM |
| Dominic Carrano, Ryan Muir | Deconvolution uncertainty for power sensors at the National Ignition Facility | Poster 5 | 2:00 PM |
| Jason Bernstein | An Expectation-Maximization (EM) Algorithm for Orbit Linkage and Determination | Poster 6 | 2:00 PM |



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| Alice Wong, Michael Rushford, Hoang Nguyen, Marcus Monticelli, Christopher Miller David Cross | NIF diffraction efficiency, heating & optical damage of Gratings Debris Shield (GDS): modeling with COMSOL | Poster 7 | 2:00 PM |
| Robert Mellors, Michael Messerly, Paul Pax, Charles Yu, Cody Mart, Christopher Sherman, Rick Ryerson, Graham Allen, Karl Fisher, Christina Morency, Rengin Gok | Fiber optic seismic sensing of the subsurface | Poster 8 | 2:00 PM |
| Xiaoqing Jin, Xuanyu Mao, Antoine Snijders, Jian-Hua Mao, Hang Chang | Biomedical Data to Knowledge: An integrative informatics approach with machine learning for brain tumor research | Poster 9 | 2:00 PM |
| William Leach and James Henrikson | Classifying Static X-Ray Imager Diagnostic Using Convolutional Neural Networks | Poster 10 | 2:00 PM |
| Piyush Karande, Jose Cadena Pico, Alan Kaplan, Doris Lam, Heather Enright, Sandra Peters, Allison M. Yorita, Razi Haque, Ana Paula Sales, Nicholas Fischer | Detecting Small Objects in Large Microscopy Images | Poster 11 | 2:00 PM |
| Jefferson A. Cuadra, Aditya K. Mohan, Robert M. Panas | Uncertainty Quantification and Prediction for X-ray systems using a systems approach | Poster 12 | 2:00 PM |
| Luis Martinez, Y.J. Rosen, E.T. Holland, X. Wu, A. R. Castelli, J.L DuBois | Qubit Readout at the LLNL Quantum Testbed | Poster 13 | 2:00 PM |
| Jacky Chan | Optical Compressive Sensing of Ultra-Wideband RF Spectra | Poster 14 | 2:00 PM |
| Brian M. Worthmann, David R. Dowling | Out of Band Acoustic Fields: Theory and Application | Poster 15 | 2:00 PM |
| Greg Spriggs | Data Extraction from the Atmospheric Tests Films | Featured Speaker | 3:00 PM |
| Kyle Champley | Methods for Few-View CT Reconstruction | Non-Destructive Evaluation | 3:40 PM |
| Aditya Mohan | Deep Learning based 3D Volume Segmentation for Few View X-ray Computed Tomography | Non-Destructive Evaluation | 4:00 PM |
| | Break | | 4:20 PM |
| Matthew Rever, Donald Loveland, Brian Gallagher, T. Yong Han | Feedstock Optimization Using Computer Vision and Machine Learning Techniques | Machine Learning 2 | 4:30 PM |
| Rushil Anirudh, Jayaraman J. Thiagarajan, Bhavya Kaikhura, Timo Bremer | Robust Projection onto Image Manifolds with Corruption Mimicking | Machine Learning 2 | 4:50 PM |
| Gerald Friedland | Measuring Generalization in Machine Learning | Machine Learning 2 | 5:10 PM |
| | Adjourn | | 5:30 PM |