

2020 Physics of Remote Sensing Program Review

Dr. Michael Yakes | July 22-23, 2020 | Virtual

Agenda Day 1 | July 22, 2020

Time	Topic	Speaker
8:30	Zoom Login	
8:50	Welcome	Col. Jason B. Mello, AFOSR
8:55	Introduction and Logistics	Dr. Michael Yakes, AFOSR
9:00	Neuromorphic Imaging with Event-Based Sensors	Dr. Gregory Cohen, Western Sydney
9:30	Rotation, Shift & Scale Invariant Automatic Image Recognition	Dr. Selim Shariar, Northwestern
10:00	Superior Wavefront Sensing Techniques for Space Situational Awareness	Dr. Mala Mateen, AFRL/RD
10:30	BREAK	
10:45	Information Efficient Coherent Imaging Using Photon-Counting Arrays	Ms. Maureen Szymanski, AFRL/RD
11:15	Passive Multi-dimensional Imaging and Recognition with Multiple Degrees of Freedom	Dr. Bahram Javidi, Connecticut
11:45	Convolved Spectra technique applied to the Geosynchronous Satellites Characterization	Dr. Jose Nilo, Universidad de La Serena
12:05	LUNCH	
1:00	Optical Imaging and Sensing in a Scattering Environment	Dr. Kevin Webb, Purdue
1:30	Non-classical optical turbulence	Dr. Andreas Muschinski, Northwest Research Associates
2:00	The Noise Collector for sparse recovery in high dimensions	Dr. Alexi Novikov, Penn State
2:30	BREAK	
2:45	Laser Propagation and Imaging with Fractal Phase Screens	Dr. Rao Gudimetla, AFRL/RD
3:15	Analysis of Modified Microfacet BRDF Models for Polarimetric Optical Scatter	Dr. Sam Butler, AFIT
3:45	3-D Nanomachining of Remote Sensors on Optical Fibers	Dr. Hengky Chandralalim, AFIT
4:15	Concluding Remarks	Dr. Michael Yakes, AFOSR
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Agenda Day 2 | July 23, 2020

Time	Topic	Speaker
8:30	Zoom Login	
8:55	Welcome and Logistics	Dr. Michael Yakes, AFOSR
9:00	Modulation strategies for passive and active polarimeters that improve system resolution	Dr. Scott Tyo, UNSW
9:30	Shape Inversion from Light Curves: Overcoming Geometric Limitations	Dr. Carolin Frueh, Purdue
10:00	Signal Detection in Linearly Mixed Observations with Background Replacement	Dr. Julie Jackson, AFIT
10:30	BREAK	
10:45	Touchless Sensing of Electrostatic Potential and Material Characterization Using Neighboring Spacecraft	Dr. Hanspeter Schaub, Colorado at Boulder
11:15	Accurate Space Weather Aging and Optical Characterization of Spacecraft Materials	Dr. Ryan Hoffmann, AFRL/RV
11:45	Understanding the optical variability in lightcurves of objects in Low Earth Orbit	Drs. Don Pollaco and Paul Chote, University of Warwick
12:05	LUNCH	
1:00	Optimal Sensor Tasking through Deep Reinforcement Learning for Space Situational Awareness	Dr. Richard Linares, MIT
1:30	Characterization and Inference of Residence Space Objects from Remote Sensing Data	Dr. Moriba Jah, Texas
2:00	Advanced Orbit Prediction for Resident Space Objects through Physics-Based Learning	Dr. Xiaoli Bai, Rutgers
2:30	BREAK	
2:45	Optical Imaging and Sensing in a Scattering Environment	Dr. Mrinal Kumar, Ohio State
3:15	Dynamical Issues in Space Situational Awareness	Dr. Daniel Scheeres, Colorado
3:35	Uncorrelated Track Association with Modified Equinoctial Coordinates	Dr. Terry Alfriend, Texas A&M
3:55	Imaging Algorithm Designed to Enhance Detection of Dim Objects Resident with Brighter Ones	Dr. Stephen Cain, AFIT
4:25	Concluding Remarks	Dr. Michael Yakes
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