2020 Dynamic Data and Information Processing PI Review
Dr. Erik Blasch | August 31 – September 2, 2020 | Virtual

Agenda Day 1	August 31, 2020	
Time	**Topic**	**Speaker**
09:00-09:45	**Zoom Login**	Erik Blasch, AFOSR
09:00-09:45	Dynamic Data and Information Processing (DDIP)	Erik Blasch, AFOSR
09:45-10:05	Generative Adversarial Networks (GANs) for Meaning Making and Translation	Todd Rovito, AFRL/RY
10:05-10:20	**BREAK**	
Session AI/ML Sensing		
10:20-10:40	Data-Driven Adaptive Learning for Video Analytics	Andreas Savakis, RIT
10:40-11:00	Theory and Efficient Algorithms for Dynamic and Robust L1-norm Analysis of Tensor Data	Panos Markopoulos, RIT
11:00-11:20	High-fidelity scene modeling and vehicle tracking using hyperspectral video	Matthew Hoffman, RIT
11:20-11:40	Dynamic Data Driven Multistatic EO/RF Sensor Fusion	Jia Li, Oakland Univ
11:40-12:30	**LUNCH**	
Session - Sensor Fusion		
14:05-14:25	Reliable Inference in Dynamic Data Fusion	Peter Willett, U Conn
12:50-13:10	Adaptive High Dimensional Data Fusion and Sensing for Dynamic Target Detection and Tracking	Ruixin Niu, VA Commonwealth Univ.
13:10-13:30	Geometric and Topological Methods for Multi-Modal Data Analysis and Fusion	Paul Bendich, Duke
13:30-13:50	Non-convex Optimization Algorithms and Theory for Matrix Factorization with Dynamic Massive Data	Laura Balzano, Michigan
13:50-14:05	**BREAK**	
Session – Processing Awareness		
14:05-14:25	Modern Database Architectures	Brent Langhals, AFIT
14:25-14:45	DDDAS-as-a-Service: Dynamic Resource Management Algorithms and Systems Software for an Infosymbiotics Hosting Platform	Aniruddha Gokhale, Vanderbilt

Time	Topic	Speaker
14:45-15:05	Resilient DDDAS-based Cloud Services (rDaaS) for Cyber Battle Management Systems	Salim Hariri, Univ Arizonia
15:05-15:25	Efficient Learning with Human-in-the-Loop in Structured, Noisy and Temporal Domains	Sriraam Natarajan, UT Dallas
15:25-15:40	**BREAK**	
Session – Data Awareness		
15:40-16:00	A Critical Review of Adversarial Learning and an Active Learning Study	David Miller, Penn State
16:00-16:20	Transforming Large Scale Social Media Networks into Data-Driven, Dynamic Sensing Systems for Modeling and Predicting Real World Threats	Conrad Tucker, Carnegie Mellon
16:20-16:40	Dynamic data driven applications systems with multi-modal sensing, collaborative perception and deep computing	Jie Wei, City College NY
16:40-17:00	Wrap Up	Erik Blasch, AFOSR
17:00	**MEETING ADJOURN FOR THE DAY**	

Agenda Day 2 | September 1, 2020		
Time	**Topic**	**Speaker**
08:30-09:00	**Zoom Login**	Erik Blasch, AFOSR
09:00-09:45	Generative Adversarial Networks for Domain-Specific Labeled Image Synthesis	Dan Zelik AFRL
09:45-10:05	Dynamic Data Driven Framework to Fuse Optical and Passive Radar Data for Enhanced Space Situational Awareness	Puneet Singla, PSU
10:05-10:20	**BREAK**	
Session Space Situation Awareness		
10:20-10:40	An Integrated Approach to Space Situational Awareness	Suman Chakravorty, TX A&M
10:40-11:00	Development of a Dynamic Data-Driven Uncertainty Quantification Systems	Richard Linares,MIT
11:00-11:20	Event Characterization Fusing Hard and Soft Data via Semantic Models	John Crassidis, Buffalo
11:20-11:40	Dynamic Data Driven Electro-Optical Sensor Detection, Tracking and Multi-Objective Control	Marcus Holzinger,Univ Col

11:40-12:30	LUNCH	

Session – Systems Awareness

12:30-12:50	Query-based Activity Estimation and Policy-Based Optimization (QuaePO)	Alexander Aved, AFRL
12:50-13:10	Dynamic, Data-Driven Design Methodologies for IoT-Based Computer Vision Systems	Aniruddha Gokhale, Vanderbilt
13:10-13:30	Towards Self-Healing Resilient Microgrids Using DDDAS	Nurcin Celik, Univ Miami
13:30-13:50	Towards a Learning-based Dynamic Data Driven Detection Framework for Unforeseen Cyber Attacks	Wei Yu, Towson Univ
13:50-14:05	BREAK	

Session – Materials Awareness

14:05-14:25	Multi-layer Surrogate Modeling via Bayesian Approach and Non-Contract Full-Field Measurements	Zhu Mao, Univ. Lowell
14:25-14:45	A Neural-Symbolic approach to Real-time Decision-making in Complex Aerospace Systems	Sarkar Soumik, Iowa State
14:45-15:05	Intelligent Self-Healing Composite Structure Using Predictive Self-Healing	Sameer Mulani, Univ Alabama
15:05-15:25	Dynamic Data Driven Control of Nanoparticle Self-Assembly Processes	Chiwoo Park, Florida State
15:25-15:40	BREAK	

Session – Sensor Design

15:40-16:00	Dynamic Data Driven Phase Optimization for Controlling Light Scattered by a Rough Surface	Lt Col Ken Burgi, AFIT
16:00-16:20	Novel Imaging and Light Detection with Metasurfaces	Augustine Urbas, AFRL/RX
16:20-16:40	Efficient and Robust Machine Learning - Center of excellence	Erik Blasch, AFOSR
16:40-17:00	DDIP Summary/ Wrap Up	Erik Blasch, AFOSR
17:00	MEETING ADJOURN FOR THE DAY	

Agenda Day 3 | September 2, 2020		
Time	**Topic**	**Speaker**
08:30-09:00	**Zoom Login**	Erik Blasch, AFOSR
09:00-09:45	Mathematical and Algorithmic Challenges for Fully Adaptive Radar	Murali Rangaswamy, AFRL
09:45-10:05	Controlled Radar Sensing and Meta-Level Tracking	Vikram Krishnamurthy, Cornell
10:05-10:20	**BREAK**	
Session: Modeling and Control		
10:20-10:40	Data-Driven Modeling for Dual Retrospectve Cost Adaptive Control	Dennis Bernstein, Univ Michigan
10:40-11:00	Uncertain, Data-Driven Observer-based Feedback Control of Unmanned Aerospace Systems	Derek Paley, Univ,. Maryland
11:00-11:20	Coordinated Persistent Airborne Information Gathering: Cloud Robotics in the Clouds	Eric Frew, Univ. Colorado
11:20-11:40	On-the-Fly Topological Formation of UAV Swarms	Joe Camp, Southern Methodist University
11:40-12:30	**LUNCH**	
Session: Aeral (UAV) Awareness		
12:30-12:50	Autonomous Systems and Artificial Intelligence Research in Education	Troy Weingart, US Air Force Academy
12:50-13:10	Dynamic Data-Driven Decision Making, Planning, and Communications in Autonomous Vehicles	Fatemeh Afghah, Univ. Arizona
13:10-13:30	Active Data- A New Paradigm for Data Streaming Analytics	Carlos Varela, RPI
13:30-13:50	Formal Verification of Stochastic State Awareness for Dynamic Data-Driven Intelligent Aerospace Systems	Fotis Kopsaftopoulos, RPI
13:50-14:05	**BREAK**	
14:05-14:25	Information content of big data	Amin Karbasi, Yale
14:25-14:45	DDIP Summary	Erik Blasch, AFOSR
14:45	**MEETING ADJOURN**	