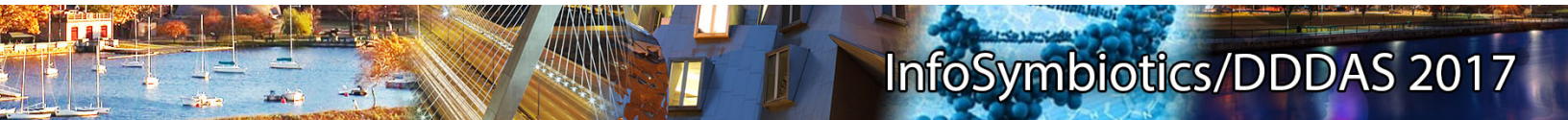
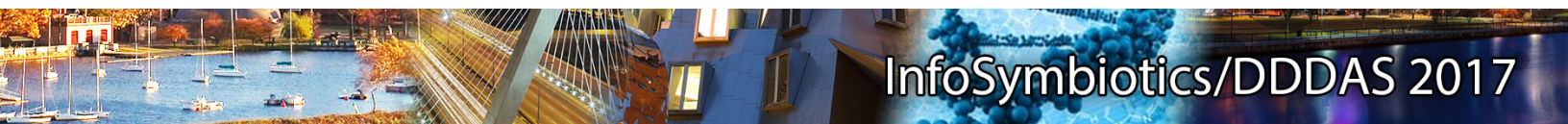
General Chairs: Dr. Blasch and Dr. Aved. *Local Chair: S. Ravela.*

Conference Agenda

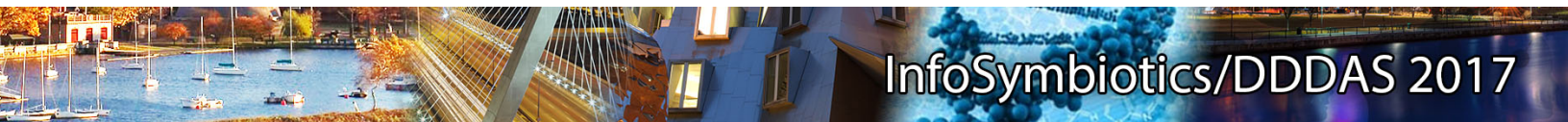
Monday - Day 1 : 7 August				
Start	**End**	**Event**	**Briefer**	Allowed Time
7:30	7:55	Registration & Welcome to MIT	Ravela/MIT	0:25
7:55	8:00	Dr. Blasch - Intro to Conference	Dr. Blasch	0:05
8:00	8:45	Dr. Darema - Status of DDDAS [*Keynote*]	Dr. Darema	0:45
8:45	9:00	Break		0:15
9:00	9:30	BRECCIA: A Multi-Agent Data Fusion and Decision Support Framework for Dynamic Mission Planning	Thomas C. Henderson	0:30
9:30	10:00	A New Control Theory for Dynamic Data Driven Systems	John Doyle	0:30
10:00	10:30	Interactive Planning and Sensing in Uncertain Environments with Task-Driven Sensor Placement	Raghvendra Cowlagi	0:30
10:30	10:45	Break		0:15
10:45	11:15	In-situ Training and Integration of New Sensors in a Sensor Network Operating within Noisy Environments	Shashi Phoha	0:30
11:15	11:45	A Separation-Based Design to Data-Driven Control for Large-Scale Partially Observed Systems	Dan Yu	0:30
11:45	12:15	Information Space Receding Horizon Control (IS-RHC) for Tractable Sensor Scheduling	Weston Faber	0:30
12:15	13:00	Lunch		0:45
13:00	13:30	A Critical Review of Adversarial Learning and an Active Learning Study	David Miller	0:30
13:30	14:00	Flight Trajectory Planning for Fixed-Wing Aircraft in Loss of Thrust Emergencies	Paul Saswata	0:30
14:00	14:30	Measurement Selection for Bias Reduction in Structural Damage Parameter Estimation	Shiyu Zhou	0:30
14:30	14:45	Break		0:15
14:45	15:15	Data acquisition and sensor placement via multi-fidelity information fusion	Paris Perdikaris	0:30
15:15	15:45	A Step Towards the Cognitive Radar: Target Detection under Nonstationary Clutter	Arye Nehorai	0:30
15:45	16:15	A Sequential Optimization Sampling Method for the Estimation Extreme Event Statistics for Dynamical Systems	Mustafa Mohamad	0:30
16:15	17:15	Poster Session Rapid Introductions (3-minutes to introduce each poster)	Sai Ravela	1:00
17:15	17:25	Wrap Up	Dr. Blasch	0:10



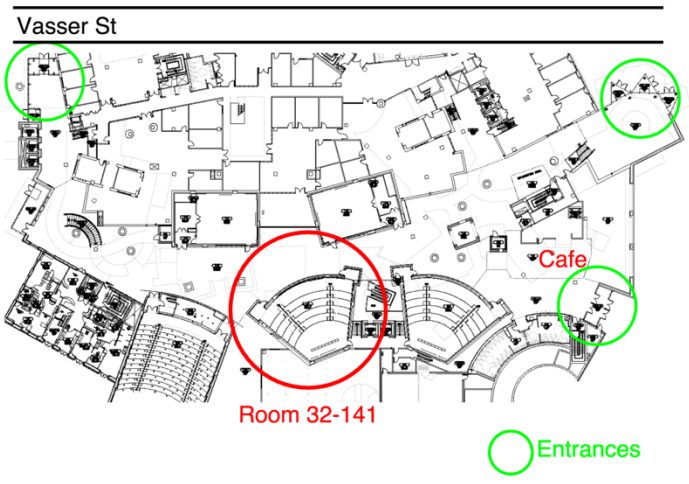
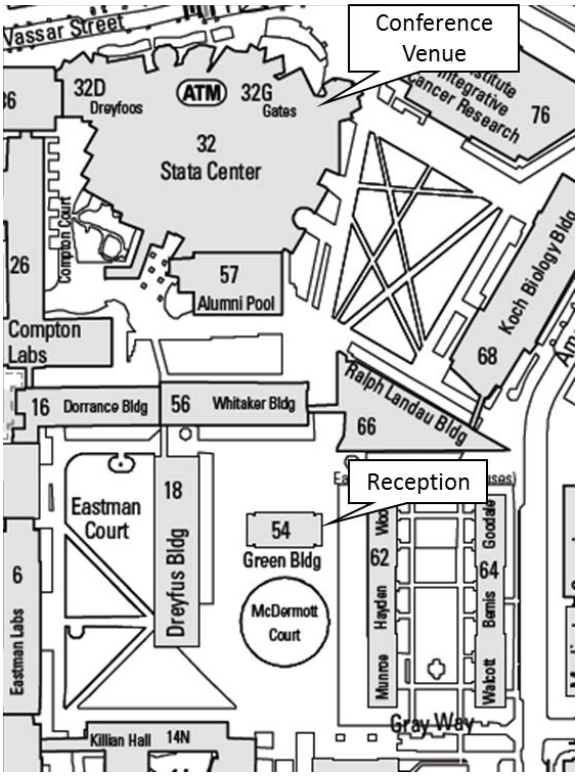
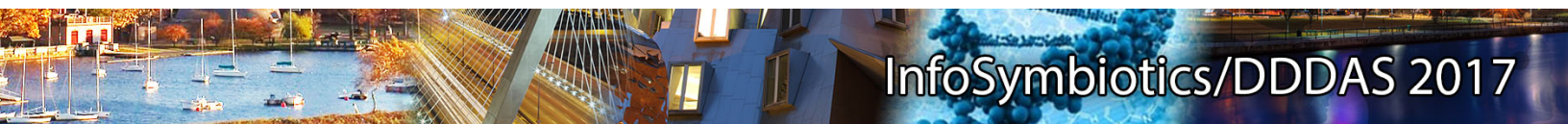
Tuesday - Day 2 : 8 August				
Start	End	Event	Briefer	Allowed Time
7:30	7:55	Registration	Ravela/MIT	0:25
7:55	8:00	Intro to Conference Day Two	Rangaswamy	0:05
8:00	8:45	DDDAS Image-Based Modeling, Simulation, and Visualization [*Keynote*]	Chris Johnson	0:45
8:45	9:00	Break		0:15
9:00	9:30	Uncertainty Quantification of Feature Tracking Algorithms	Manoranjan Majji	0:30
9:30	10:00	Dynamic Data-Driven Adaptive Sampling and Monitoring of Big Spatial-Temporal Data Streams for Real-Time Solar Flare Detection	Kaibo Liu	0:30
10:00	10:30	High-dimensional change-point detection over networks via sketching	Yao Xie	0:30
10:30	10:45	Break		0:15
10:45	11:15	Dynamic Data-Driven and Real-Time Verification for Industrial Control System Security and Resilience	Kevin Jin	0:30
11:15	12:00	Dedicated time to view and dialogue with poster presenters		0:45
12:00	12:45	Lunch		0:45
12:45	13:15	Towards Low-Cost Attritable Aircraft Technology via Dynamic Data-Driven Application Systems	Karen Willcox	0:30
13:15	13:45	High Speed Video-based health monitoring using 3D deep learning	Soumik Sarkar	0:30
13:45	14:15	Bayesian Nonparametric Modeling of Categorical Time Series for Fusion of Correlated Information	Asok Ray	0:30
14:15	14:45	Hierarchical Anomaly Identification in Power Systems Using Synchrophasor Data	Sajjad Amini	0:30
14:45	15:00	Break		0:15
15:00	15:30	TEPHCON: Towards a Dynamic Data-Driven Application System for Mining Society's Phobia of Technologies	Conrad Tucker	0:30
15:30	16:00	Reinforcement Learning: Connections between MDPs and MAB Problems	Wes Cowan	0:30
16:00	16:30	Security and Privacy Issues in DDDAS-based IoT and Smart Systems	Vaidy Sunderam	0:30
16:30	17:00	Dynamic Data Driven formation flying for real time estimation of a plume using mobile sensor network	Michael Demetriou	0:30
18:00		Reception	54-915 @ MIT	



Wednesday - Day 3 : 9 August				
Start	End	Event	Briefer	Allowed Time
7:30	7:55	Registration	Ravela/MIT	0:25
7:55	8:00	Intro to Conference Day 3	Grizelda Loy-Kraft	0:05
8:00	8:45	DNA for DDDAS [*Keynote*]	Sangtae Kim	0:45
8:45	9:00	Break		0:15
9:00	10:00	**Usage, Operational, and Sustainment Challenges** ...***Road to Digital Thread Rapid Decision Speed*** • **GE** - "The Future of Engineering Design & Analysis at GE: Digital Thread for Design" [1] • **Universal Technology Corporation** – "Environmental Particulate FOD - Data Integration in US and UK for Operational Decision Making" [2] • **United Technologies Research Center** – "Technological Gaps for True Usage-Based Lifing: A Machine Learning Perspective" [3]	Panel Moderator: Grizelda Loy-Kraft Bob Zacharias [1] Rob Jackson [2] Ozgur Erdinc [3]	
10:00	11:00	**Controls, Big Data and Cyber...*Road to Cyber 1st Digital Thread*** • **United Technologies Corporation** – Aerospace Systems; "UaDAP—a Modular Approach to Software Design" [1] • **Jacobs Technology, Inc** - "Creating Virtual Sensors From Big Data" [2] • **AFRL** - "Uninhabited Aircraft Systems (UAS) -Addressing Battlespace Challenges" [3]	Panel Moderator: Grizelda Loy-Kraft Michael J Krenz [1] Mike W.Venti [2] Grizelda Loy-Kraft [3]	
11:00	11:15	Break		0:15
11:15	12:15	**Design and Life Management ...*Road to Digital Twin, Agile Development, and Prescriptive Capability/ Low Cost Designs*** • **Florida Turbines** - *"Designing Low Cost Systems"* [1] • **GE** – *"Digital Twin: Bringing Physics & Data Expertise Together"* [2] • **Florida Turbines** –*" Overlapping Development and EMD Challenges"* [3]	Panel Moderator: Grizelda Loy-Kraft Joe Brostmeyer [1] Paul Ardis [2] Joe Brostmeyer [3]	
12:15	13:00	Lunch		0:45
13:00	13:30	Fast Active Learning for High Dimensional Nonlinear Dynamical Systems	Gabriel Terejanu	0:30
13:30	14:00	Leveraging Software-Defined Networking for Incident Response in Industrial Control Systems	Alvaro Cardenas	0:30
14:00	14:30	Autonomous Sampling of Severe Storms using Dispersed Computing for Data-Driven Reasoning	Katherine Glasheen	0:30



Poster Presentations	
Title	**Author**
Luban: Towards Precision Inkjet 3D Printing using Ultra-Fast Light Beam Sensing and Control	Aosen Wang
D3NOC: Dynamic Data Driven Network On Chip	Armin Mehrabian
Streamling Online Decision-Makings via Dynamically Sourcing Decentralized Expertise	Shuai Huang
Sea Surface Temperature Estimation from Satellite Observations and In-Situ Measurements Using MultiFidelity Gaussian Process Regression	Hessam Babaee
Dynamic Data Driven Adaptive Observations in Data Assimilation	Ryne Beeson
E-OPTIMAL DATA REDUCTION FOR LEARNING FROM BIG DATA	Mohsen Joneidi
Particle Gaussian Mixture (PGM) Filters-II	Dilshad R Akkam Veettil
Structured and Model based Compressive Sensing for Real-time Big Data Feature Recognition	Janet Meiling Wang-Roveda
Radar Resource Allocation, Intent Inference and Decision Making	Vikram Krishnamurthy
Sparse Collocation based Approach for Uncertainty Propagation through Nonlinear Dynamical Systems	Puneet Singla
Dynamic, Data-driven Optimization of Hyperspectral Video Processing Under Resource Constraints	Shuvra Bhattacharyya
Dynamic Integration of Motion and Neural Data to Model Human Behavior	Dimitrios Pantazis
Deep Reinforcement Learning for Cold Spray Application	Amit Surana
Dynamic Data Driven Deep Learning	Sai Ravela

Conference Website: http://www.1dddas.org/conf/2017
Conference Venue: Ray and Maria Stata Center, 32 Vasser St., Cambridge MA, Room 32-141

Reception: Room 54-915