

Computational Cognition and Machine Intelligence (CCMI)

Dr. James Lawton | November 16-20, 2015 | Arlington, VA

Basic Research Innovation and Collaboration Center (BRICC)

4075 Wilson Boulevard, Suite 350
Arlington, VA 22203

AGENDA Day 1 – Monday, November 16, 2014

Time	Title of Project	Speaker
8:00-8:45	Registration	
8:45-9:00	Welcome/Logistics	James Lawton , Air Force Office of Scientific Research
9:00-9:40	Towards a Greater Understanding of the Cerebellum	Peter Stone , University of Texas At Austin
9:40-10:20	Fundamental Neuroinformation Processing	Aurel Lazar , Columbia University
10:20-10:40	BREAK	
10:40-11:20	A Neurocomputational Process for Visual Attention and Reasoning	John Tsotsos , York University
11:20-12:00	Spike Timing-Dependent Learning Circuits for Temporal Pattern Recognition and CI	Kurtis Cantley , Boise State University
12:00-1:20	LUNCH	
1:20-2:00	Systems-Theoretic Analysis and Optimization of Biophysical Neuronal Networks	Shinung Ching , University of Washington
2:00-2:40	Stochastic Resonance and Perceptual Decision Making Under Inattention	Hakwan Lau , University of California, Los Angeles
2:40-3:00	BREAK	
3:00-3:40	Scalable Photonic Machine for Neuromorphic Computation	Damian Rontini , Supélec - Ecole Supérieure d'Electricité
3:40-4:20	Learning Multisensory Representations	Robert Jacobs , University of Rochester
4:20-5:00	Cognitive-Neuromorphic Computing Architectures for Complex Event Analytics	Douglass Scott , AFRL/RH
5:00	ADJOURN FOR THE DAY	

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AGENDA Day 2 – Tuesday, November 17, 2014

Time	Title of Project	Speaker
8:00-8:45	Registration	
8:45-9:00	Welcome/Logistics	James Lawton , Air Force Office of Scientific Research
9:00-9:40	A Neural Information Field Approach to Computational Cognition	Chris Eliasmith , University of Waterloo and University College London
9:40-10:20	Circuit Models for Robust, Adaptive Neural Control	Roger Mailler , University of Tulsa
10:20-10:40	BREAK	
10:40-11:20	Negotiating Mission Plans under Risk Bounds	Sylvie Thiebaut , National ICT Atralia Limited
11:20-12:00	Dynamic Generalizations of Systems Factorial Technology	Joseph Houpt , Wright State University
12:00-1:20	LUNCH	
1:20-2:00	Computational Modeling of the Time Course of Visual Decision Processes	Robert Nosofsky , Indiana University
2:00-2:40	The Constructive Role Of Decisions: Implications From A Quantum Approach	Emmanuel Pothos , City University (London)
2:40-3:00	BREAK	
3:00-3:40	Great Computational Intelligence in the Formal Sciences...	Selmer Bringsjord , Rensselaer Polytechnic Institute
3:40-4:20	Applications of Quantum Probability Theory to Strategic Decision Making	Jerome Busemeyer , Indiana University
4:20-5:00	Automated Exploration of Machine Learning Model Failure States	Misty Blowers , AFRL/RI
5:00	ADJOURN FOR THE DAY	

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AGENDA Day 3 – [Wednesday, November 18, 2014](#)

Time	Title of Project	Speaker
8:00-8:45	Registration	
8:45-9:00	Welcome/Logistics	James Lawton , Air Force Office of Scientific Research
9:00-9:40	Parametric Assumptions and Model Falsifiability	Matthew Jones , University of Colorado
9:40-10:20	Mathematics of Observer Fields for Decision Making	Louis Narens , University of California Irvine
10:20-10:40	BREAK	
10:40-11:20	Computational Modeling of Sequential Skill Learning	Todd Maddox , University of Texas At Austin
11:20-12:00	Making and Keeping Informed Commitments in Human-Machine Systems	Edmund Durfee , University of Michigan
12:00-1:20	LUNCH	
1:20-2:00	Interactive Task Learning	John Laird , University of Michigan
2:00-2:40	Understanding How to Build Long-Lived Learning Collaborators	Kenneth Forbus , Northwestern University
2:40-3:00	BREAK	
3:00-3:40	Understanding Cognitive Decision Making via Nearest Neighbor Algorithms	Daniel Lee , University of Pennsylvania
3:40-4:20	Cognitive Maximum Margin Correcl	Andres Rodriguez , AFRL/Ry
4:20-5:00	TBD	
5:00	ADJOURN FOR THE DAY	

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AGENDA Day 4 – Thursday, November 19, 2014

Time	Title of Project	Speaker
8:00-8:45	Registration	
8:45-9:00	Welcome/Logistics	James Lawton, Air Force Office of Scientific Research
9:00-9:40	Principles of Robust Learning Derived from the Structure and Function of the Cor	Armen Stepanyants, Northeastern University
9:40-10:20	A Proposal to Perform New Theoretical and Experimental Research...	James Townsend, Indiana University
10:20-10:40	BREAK	
10:40-11:20	Neurons Are Poised Near the Edge of Chaos	Leon Chua, University of California
11:20-12:00	Engineering Emergence in Large-Scale Simulations 150092	Simon Miles, King's College London
12:00-1:20	LUNCH	
1:20-2:00	ARCHER - Adaptive and Robust Cueing for Human Enabled Reconnaissance	Luca Bertuccelli, United Technologies Research Center
2:00-2:40	Trust and Trustworthiness in Human-Robot Interaction	Alan Wagner, Georgia Tech Applied Research Corporation
2:40-3:00	BREAK	
3:00-3:40	Workload-Adaptive Human Interface to Aid Robust Decision Making.	Michael Miller, AFIT/ENV
3:40-4:20	Dynamic, Multi-Agent Physical Search Problems with Probabilistic Knowledge	Jeffery Hudack, AFRL/RI
4:20-5:00	Non-Contact Cardiovascular Sensing and Assessment	Justin Estep, AFRL/RH
5:00	ADJOURN FOR THE DAY	

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AGENDA Day 5 – Friday, November 20, 2014

Time	Title of Project	Speaker
8:00-8:45	Registration	
8:45-9:00	Welcome/Logistics	James Lawton, Air Force Office of Scientific Research
9:00-9:40	Perception and Action Interfaces in the Symbiosis of Humans and Multi-Agent Syst	Panagiotis Artemiadis, Arizona State University
9:40-10:20	Robust Adaptive Autonomy in Contested Environments	Girish Chowdhary, Oklahoma State University
10:20-10:40	BREAK	
10:40-11:20	Inductive Inference by Humans and Machines	Thomas Griffiths, University of California
11:20-12:00	Robust Coordination of Autonomous Systems	Brian Williams, Massachusetts Institute of Technology
12:00-1:20	LUNCH	
1:20-2:00	Embodied Interactions in Human-Machine Decision Making	Juan Wachs, Purdue University
2:00-2:40	A Machine Learning Framework of Categorization	Jun Zhang, University of Michigan
2:40-3:00	BREAK	
3:00-3:40	Meta-Optimization	Toby Walsh, National ICT Atralia Limited
3:40-4:20		
4:20-5:00		
5:00	MEETING ADJOURNED	