BMI

Brain-Mind Institute

FOR FUTURE LEADERS OF BRAIN-MIND RESEARCH

Summer School

Mon. June 25 - Fri., August 3, 2012

International Conference on Brain-Mind (ICBM)

Sat. July 14, 2012 - Sun. July 15, 2012

Michigan State University, East Lansing, Michigan USA

http://www.brain-mind-institute.org/

Collectively, the human race seems ready to unveil one of its last mysteries — how its brain-mind works at computational depth. The research community needs a large number of leaders who have sufficient knowledge in at least six disciplines conjunctively — Biology, Neuroscience, Psychology, Computer Science, Electrical Engineering, and Mathematics (6 disciplines). The Brain-Mind Institute (BMI) provides an integrated 6-discipline academic and research infrastructure for future leaders of brain-mind research. The BMI is a new kind of institute, not limited by boundaries of disciplines, organizations, and geographic locations.

The subjects of interest include, but not limited to:

Genes: inheritance, evolution, species, environments evolution vs. development.
Cells: cell models, cell learning, cell signaling, tissues, morphogenesis, tissue.
Circuits: features, clustering, self-organization, brain areas, classification, regression.
Streams: pathways, intra-modal attention, vision, audition, touch, taste.
Brain ways: neural networks, brain-mind architecture, inter-modal, neural modulation (punishment/serotonin, reward/dopamine, novelty/Ach/NE, higher emotion).
Experiences/learning: training, learning, development, interaction, intelligence metrics.
Behaviors: actions, concept learning, abstraction, languages, decision, reasoning.
Societies/multi-agent: joint attention, swarm intelligence, group intelligence, laws.
Diseases: depression, ADD/ADHD, drug addiction, dyslexia, autism, schizophrenia, Alzheimer's disease, Parkinson's disease, vision loss, and hearing loss.
Applications: image analysis, computer vision, speech recognition, pattern recognition, robotics, artificial intelligence, instrumentation, and prosthetics.

Keynote talks include:
James L. McClelland, Stanford University
Stephen Grossberg, Boston University

Important dates:
Full papers: by Sunday, March 4, 2012
Abstracts: by Sunday, March 11, 2012
Course applications: by Sunday, March 18, 2012
Advance registration: Sunday, April 15, 2012
Instructor applications: Sunday, April 22, 2012