Computer Science Research Day 2007

University of Vermont
101 Perkins Building
Thursday, August 23, 2007

Time	Events & Presentations
8:30– 9:00:	Continental Breakfast
9:00– 9:10:	*Welcome*, Sean Wang*
9:10– 9:25:	*Opening Remarks*, Dean Domenico Grasso
9:25– 9:30:	Keynote Introduction, Robert Snapp
9:30–10:30:	Keynote Address:

The Importance of Collaborative Research Cyber Enabled Discovery (CDI) and Beyond: An NSF Perspective,
Lenore M. Mullin, Program Director,
Numeric, Symbolic, Algebraic, Computing and Optimizations
National Science Foundation.

Collaboration among computer scientists, mathematicians, engineers, and physicists is important both to Computational Science and to NSF's new initiative in Cyber Enabled Discovery and Innovation. At NSF, a multi-million dollar imitative has been proposed to broaden the nation's capability for innovation by developing a new generation of computationally based concepts and tools to analyze complex, data-rich, and interacting systems derived from discoveries throughout the sciences. CDI aims to explore radically new concepts, approaches, and tools at the intersection of computational and physical worlds to address such challenges. Through investments ranging from supercomputing centers and the Internet to software and algorithm development, NSF-supported information technology has stimulated scientific breakthroughs across all science and engineering fields. CDI includes five themes: knowledge extraction, interacting elements, computational experiments, virtual environments, and the education of researchers and students in computational discovery. An area of concern, given that peta-scale computers is upon us, is to keep software performance in line with Moore's Law knowing that Proebsting's Law is presently valid. How can multi-disciplinary groups of researchers address this problem?

10:30–11:00:	Coffee Break
11:00–11:30:	*Recent Research in Database Systems*, Byung Lee.
11:30–12:00:	*Resilient Machines that Work Together*, Josh Bongard.
12:00–12:45:	Buffet Lunch

* All presenters are from UVM unless otherwise noted.

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Time	Events & Presentations
12:45–13:30:	Poster Session:

1. *Application of Expectation Maximization for 3-D Electron-Microscope Imaging*, Lingbo Yu, Michael Radermacher, and Robert Snapp.
2. *Classification of clinical reports using Natural Language Processing in a specific problem domain*, Rhonda Kost, Benjamin Littenberg, and Jeffrey Bond.
3. *Comparison of Neural Network models using selected useful data*, Zhenyu Lu and Josh Bongard.
4. *Energy-efficient Dynamic Spatial Resolution Control for Wireless Sensor Clusters*, Biyu Liang, Jeff Frolik and Sean Wang.
5. *Modeling Takeover Dynamics with Pair Approximations in Regular Population Structures*, Josh Payne and Maggie Eppstein.
6. *Noise Modeling with Associative Corruption Rules*, Yan Zhang.
7. *Ontology-informed optimal partitioning of spatial information for automated characterization of functional models*, Gary Johnson, Ferdinando Villa and Sergey Krivov.
8. *Semijoin-based Join Processing over Distributed Data Streams*, Tri Tran and Byung Lee.
9. *Smart-Sampling: A Energy-Saving scheme for WSN Case of Study: UVM Horticulture Center*, Gabriela Garay and Sean Wang.

13:30–14:00:	*Benchmarking Stereo Vision and Optical Flow Algorithms*, Daniel Scharstein, Middlebury College.
14:00–14:30:	*Type Safe Dynamic Linking for JVM Access Control*, Chris Skalka.
14:30–15:00:	*Modeling invasiveness in plant communities with feedbacks*, Maggie Eppstein.
15:00–15:30:	Coffee break with Birthday Cake
15:30–16:00:	*Two threads: Sensor networks and privacy with location-based services*, Sean Wang.
16:00–16:30:	Informal Discussion