

**Tuesday, September 25, 2012**  
**12:00 - 12:50 p.m., Room T-747**

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**“PhysioMaps: A view of the Physiome”**

Recently, scientists have increasingly turned toward biosimulation models as an important tool to help understand and mechanistically describe large amounts of physiological experimental data. The Virtual Physiological Rat (VPR) project is a recent effort aimed at addressing a portion of the Physiome vision: namely, that we can mechanistically describe the processes of patho-physiology, and thereby improve our understanding of those processes, and then target interventions to restore normal physiology. Likewise, our research group in the Semantics of Biological Processes has been developing models and software for representing and manipulating models of biological processes. In this talk, I will summarize our recent work in developing a repository of annotated, modular biosimulation models. Most recently, we have developed methods for visualizing the processes in a model, which we call a PhysioMap, as this map is a view or a small slice of the grander Physiome. Finally, I will report on on-going collaboration between our group and the VPR project, and how we plan to demonstrate the benefits of our modeling approach in terms of new insights into the pathology of hypertension and kidney dysfunction.

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John Gennari, PhD, received his doctorate in Computer Science (in artificial intelligence) in 1990, and has been carrying out research in biomedical informatics since 1994, when he began working as a research scientist in the Stanford Medical Informatics group. His primary research focus is in knowledge representation and especially knowledge sharing. John is extensively published in the Biomedical Informatics literature, in application areas as diverse as clinical trial protocol management, health care guidelines, and cell-signaling pathways. Dr. Gennari joined the BHI faculty in 2002.

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