



Department of Biomathematics Seminar Series:  
Frontiers in Systems and Integrative Biology

## Data-Driven Approaches to Protein Biophysics



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Professor

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**Friday, February 20, 2015**

**4:00 PM**

**132 Neuroscience Research Building  
(NRB Auditorium)**

### **ABSTRACT:**

The Big Data era offers new avenues in molecular modeling through the integration of classical physics and chemistry with data-driven computation. Recasting biophysical questions in terms of classification gives rise to robust predictive models and avoids many challenges in working with non-convex energy functions, using knowledge derived from ab initio force fields and simulation as features in predictive models of molecular association. Several successful examples of this strategy in developing models for alanine mutagenesis, allosteric communication and DNA binding will be presented. Recent applications also highlight the value of integrating data on molecular evolution into physical studies of protein interaction.

Host: Maria D'Orsogna, Ph.D.

To receive e-mail seminar notices, contact David Tomita ([dtomita@biomath.ucla.edu](mailto:dtomita@biomath.ucla.edu))

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