

THE FACTS OF LIFE:
DATA-DRIVEN APPROACHES TO SYSTEMS BIOLOGY

Preferred dates: Anytime. End of summer (e.g., first week of September) is less favored, as people with teaching responsibilities will vanish.

Preferred duration: Two weeks

Organizer: **Chris Wiggins**

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Columbia University
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Coorganizer: **Gustavo A. Stolovitzky, Ph.D.**

Affiliation: Functional Genomics & Systems Biology
IBM T.J. Watson Research Center

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Description: Dr. Stolovitzky is the manager of the IBM Functional Genomics and Systems Biology and Modeling Group. Before joining IBM, he was at NEC and the Rockefeller University. His research includes analysis of DNA microarray data.

Note that additional co-organizers are being solicited.

DESCRIPTION:

It is becoming increasingly clear that many of the questions of interest to physicists in systems biology – the study of collective phenomena in molecular biology – will be answered via high-throughput approaches such as DNA microarray technologies. While the data are abundant, the astronomical number of relevant degrees of freedom – genes, proteins, and other biological observables, renders irrelevant both canonical statistical tools and parametrically-described microscopic models. Instead physicists are devising new statistical tools and applying machine learning methods developed in other fields, which go beyond clustering or organizing data to create predictive interpretable models of systems biology.

POSSIBLE SPEAKERS:

Biologists

Botstein, David
Brody, Carlos
Brown, P
Bustamante, Carlos
Chklovskii, Dmitry
Curch, George
Eisen, M
Golub, TR
Kirschner, M
Kleinfeld, David
Levine, A
Miller, Jonathan
Paullson, B
Pilpel, X
Reinke, Valerie
Roth, Frederick
Simoncelli, Eero
Spellman, PT
Stockwell, Brent
Stormo, Gary
Tavazoie, Saeed
White, Kevin
De Risi, J

Computational Biologists

Arkin, A
Burge, C
Bustamante, Carlos
Califano, A
Chechik, Gal
Freund, Yoav
Friedman, Nir
Furey, Terry
Gifford, D
Greengard, L
Hartemink, Alex

Haussler, David
Ideker, Trey
Lander, E
Leslie, Christina
Murphy, Kevin
Paninski, Liam
Pereira, Fernando
Schneidman, Elad
Scholkoph, B
Sharp, Phil
Singh, Mona
Slonim, Noam
Tibshiriani, Rob
Tishby, T
Vapnik, V

POSSIBLE ATTENDEES:

Aalberts, Daniel
Albert, Reka
Atwal, Gurinder
Balasubramanian, Vijay
Barkai, Naama
Bialek, B
Bussemaker, Harmen
Callan, C
Da Silveira, Rava
Deweese, Mike
Fairhall, Adrienne
Fisher, Danel
Goldstein, Ray
Hopfield, John
Hwa, Terry
Kardar, Mehran
Koberle, Roland
Laughlin, Bob
Li, Hao
Lubensky, D
Mackay, David
Magnasco, Marcelo
Magnoasco, Marcelo
Mirny, Leonid
Mitra, Partha
Naef, Felix
Nelson, David

Nemenman, I
Onuchic, Jose
Rajewsky, Nicolaj
Ruckenstein, Andrei
Sengupta, Anirvan
Seung, S
Shrainman, B
Siggia, Eric
Slovitsky, Gustavo
Sompolinski, Haim
Stanley, Eugene
Still, Susanna
Tang, Chao
Van Nimwegen, Eric
Wall, M
Wiggins, C
Wingreen, Ned