

SPEAKERS

CELLULAR SCALE

Aviv Regev

The Broad Institute of MIT

Gregoire Altan-Bonnet
National Cancer Institute
for Cancer Research

Thomas Hoefler

Deutsches
Krebsforschungszentrum

Jim Faeder

University of Pittsburgh
School of Medicine

ORGANISMIC SCALE

Shenshen Wang

University of California - L.A.

Eric Huseby

Univ. of Massachusetts
Medical School

Thierry Mora

Laboratoire de Physique
Statistique

Ron Germain

National Institute of Allergy
& Infectious Diseases

POPULATION SCALE

Katia Koelle

Duke University

Michael Lassig

Institute of Theoretical
Physics, Univ. of Cologne

Alan Perelson

Los Alamos National
Laboratory Center for
Evolutionary and
Theoretical Immunology

Andrew Ferguson,

University of Illinois

Richard Neher,

Max Planck Institute for
Developmental Biology

DISCUSSION LEADERS

Curtis Callan

Princeton University

Harinder Singh

Cincinnati Children's
Hospital

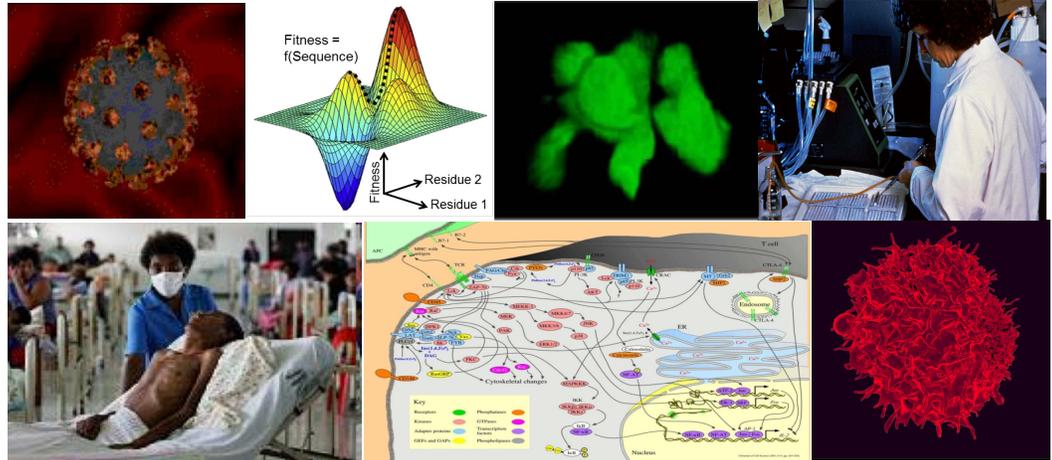
BANQUET SPEAKER

Bruce Walker

Ragon Institute
of MIT, MGH and Harvard

Physical Concepts and Computational Models in Immunology: a discussion forum for studies across scales of space and time

SCALES: Cellular, Organismic, Population



WHEN: October 11-12, 2017

WHERE: Cambridge, MA USA



Organized by: Arup K. Chakraborty, Aleksandra Walczak, and Jayajit Das

This is an exciting time for immunology. Immunologists are attempting to answer increasingly complex questions concerning phenomena that range from the genetic, molecular, and cellular scales to that of organs, whole animal or humans, and populations of humans and pathogens. Some of the questions we seek to answer include:

How do the many different components involved interact with each other cooperatively, within and across these scales, for systemic immune responses to emerge?

How does aberrant regulation of these processes cause disease?

The non-linear, cooperative, and stochastic character of the interactions between components of the immune system as well as the overwhelming amounts of data that can now be collected can make it difficult to intuit patterns in the data or a mechanistic understanding of the phenomena being studied. Concepts rooted in physics and computational models are increasingly playing a key role in overcoming these challenges.

At this symposium, 30 minute lectures will be followed by extended discussion on the technical challenges in the computational/theoretical realm, and how they might be addressed. We also aim to cultivate a community for junior scientists in the field around the world. We hope to make this an annual forum where junior and senior computational/theoretical scientists and experimentalists can come together to discuss the key advances and challenges. Won't you join us?

SEATING IS EXTREMELY LIMITED

Register Now: <https://tinyurl.com/jt6eevu>

Supported by the generosity of the following:

Shuyan Qi, PhD

Ragon Institute
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