# HIV, Viruses and their Hosts: A Systems Biology Approach

Bloomberg Lecture Hall  
Institute for Advanced Study, Princeton, NJ

Hosted by:  
THE SIMONS CENTER FOR SYSTEMS BIOLOGY  
Institute for Advanced Study  
and the  
GLOBAL HIV VACCINE ENTERPRISE

## SYMPOSIUM SCHEDULE

**Monday, October 6, 2008**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:15 a.m.</td>
<td>COFFEE AVAILABLE - Bloomberg Hall Biology Atrium</td>
</tr>
</tbody>
</table>
| 8:50 a.m.  | Welcoming Remarks  
Arnold J. Levine, Institute for Advanced Study  
Alan Bernstein, Global HIV Vaccine Enterprise |
| 9:00 a.m.  | *I. Innate Immunity*  
Marcus Altfeld, Massachusetts General Hospital & Harvard Medical School  
*Innate Immune Function in Acute and Chronic HIV-1 Infection* |
| 9:40 a.m.  | Jean-Laurent Casanova, The Rockefeller University & Howard Hughes Medical Institute  
*A Genetic Dissection of Immunity to Infection in Natura* |
| 10:20 a.m. | COFFEE BREAK - Bloomberg Hall Biology Atrium                         |
| 10:40 a.m. | Mary Carrington, National Cancer Institute  
*The Influence of KIR and HLA on HIV Disease* |
| 11:20 a.m. | Bali Pulendran, Emory Vaccine Center, Emory University  
*Systems Biology Approaches Predict Immunogenicity of the Yellow Fever Vaccine in Humans* |
| 12:00 p.m. | *II. Systems Biology*  
Roy Kishony, Harvard Medical School  
*The Impact of Drug Interactions on Evolution of Resistance* |
HIV, Viruses and their Hosts: A Systems Biology Approach

Monday, October 6, 2008 (continued)

12:40 p.m. - 2:00 p.m.  LUNCH - Available in Institute Dining Hall

2:00 p.m. - 2:40 p.m.  Harlan Robins, Fred Hutchinson Cancer Research Center
Sequencing the T cell VDJome: Comprehensive Assessment of the TCR Diversity and Frequency

III. Mathematical Ecology & Infectious Diseases

2:40 p.m. - 3:20 p.m.  Eddie Holmes, The Pennsylvania State University
The Comparative Genomics of RNA Viruses

3:20 p.m. - 4:00 p.m.  Raúl Rabadán, Columbia University College of Physicians and Surgeons
The Evolution of Influenza

4:00 p.m. - 4:15 p.m.  AFTERNOON TEA BREAK - Fuld Hall Common Room

4:15 p.m. - 4:55 p.m.  George Dimopoulos, Johns Hopkins School of Public Health
Mosquito Anti-Viral Defenses

4:55 p.m. - 5:35 p.m.  Alex Sigal, California Institute of Technology
Time to Evolution of Drug Resistance Depends on Whether Drugs Target Infection Frequency or Burst Size

IV. HIV

5:35 p.m. - 6:10 p.m.  Rafick-Pierre Sékaly, University of Montreal
Systems Biology Approaches to the Understanding of Memory T Cell Homeostasis and Correlates of Immune Protection

6:10 p.m. - 6:45 p.m.  Guido Silvestri, University of Pennsylvania
Natural SIV infections
HIV, Viruses and their Hosts: A Systems Biology Approach

Tuesday, October 7, 2008

8:30 a.m. - 9:00 a.m.  COFFEE AVAILABLE - Bloomberg Hall Biology Atrium

9:00 a.m. - 10:30 a.m.  DISCUSSION
Moderators:
Arnold J. Levine, Institute for Advanced Study
Alan Bernstein, Global HIV Vaccine Enterprise
Jesse Bloom, California Institute of Technology
Raúl Rabadán, Columbia University College of Physicians and Surgeons
Harlan Robins, Fred Hutchinson Cancer Research Center
Alex Sigal, California Institute of Technology

12:00 p.m. - 1:30 p.m.  LUNCH - Available in Institute Dining Hall

END OF PROGRAM