



Distinguished Lecture Series
the Program for Evolutionary Dynamics presents:

Bruce Walker, M.D.

**The AIDS epidemic:
Immune selection pressure,
viral evolution,
and prospects for a vaccine**

date: Friday, September 19th 2008

time: 2:30 pm

location: Harvard Science Center lecture hall C

This lecture is free and open to the public.

HIV replication is dependent on an error prone reverse transcriptase (RT) enzyme which converts viral RNA into proviral DNA. As a result of RT infidelity, the degree of viral evolution within a single individual dwarfs that seen in other viruses such as influenza. The HIV evolution observed in a given individual is heavily influenced by immune selection pressure mediated through HLA class I alleles. Results from population based studies in Africa, the US and Asia, as well as studies in persons who spontaneously control HIV without the need for medications, will be presented showing that HIV evolution under immune selection pressure is to a large extent predictable. The implications of such constraints on HIV evolution for the development of AIDS vaccines will be discussed.

about the lecturer:

Dr. Walker is Professor of Medicine at Harvard Medical School, Director of the Center for AIDS Research at Harvard University, Director of the Partners AIDS Research Center at Massachusetts General Hospital, and a Howard Hughes Medical Institute Investigator. In addition, he has been involved in collaborative research in Africa at the University of KwaZulu-Natal in Durban, South Africa, where he helped to establish a state of the art AIDS Research Center to serve sub-Saharan Africa.

about the lecture series:

The Distinguished Lecture Series of the Program for Evolutionary Dynamics is designed to provide scientific leaders with the opportunity to address innovative interdisciplinary research interests in a public forum with a general scientific audience. The Program for Evolutionary Dynamics is directed by Martin Nowak, Professor of Mathematics and Biology.

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