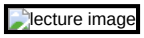

Visions for Quantitative Biology Lecture Series

Computing 21st Century Biology

John Wooley

Energy, Coast and Environment Building Dalton J. Woods Auditorium
May 25, 2006 - 03:00 pm

Abstract:
Computing has changed biology forever. High throughput and/or high information technologies, from sequencing to microcopy, have given us deep insight into the intrinsic complexity of biology, of living organisms and their components. One could say we know better than ever before how little we know about biology, and can recognize that many surprises lie ahead. At the same time, after decades of success in carefully defined, well-focused hypothesis driven research, more and more biological research, even at molecular levels, is taking on a systems level, synthetic or integrative approach. To explore the complexity of biology, of the emergent properties up the chain of organization studied

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Speaker's Bio:
Dr. Wooley is Associate Vice Chancellor for Research at the University of California San Diego, an adjunct Professor of Pharmacology, and of Chemistry and Biochemistry, and a Strategic Advisor and Senior Scientific Computing Fellow for the San Diego Supercomputer Center. Among other external appointments, Dr. Wooley serves on The University of Chicago Board of Governors, the Federal Advisory Committees for the NSF Biological Sciences and the US DOE Biological and Environmental Research, and chairs the Singapore Biomedical Research Council Science Advisory Board for the Bioinformatics Institute (BII). He previously held faculty appointments at Princeton University, the Marine Biological Labs and Searle Pharmaceuticals, did postdoctoral research in molecular biology at Harvard University, and received his Ph.D. degree at The University of Chicago, working in biological physics. Along with invigorating and/or creating programs for instrumentation and instrument development, minority postdoctoral training, interdisciplinary graduate education, and other infrastructure for the biological sciences, Dr. Wooley created the first programs within the US federal government for funding research in bioinformatics and in computational biology, and has been involved in strengthening the interface between computing and biology for more than a decade. Recently, on behalf of the National Science Foundation, he explored the requirements for building a comprehensive cyberinfrastructure (i.e., the pervasive use of information technology, networking, and scientific computing) for the biological sciences (under the auspices of the NSF Biological Sciences AC; see http://research.calit2.net/cibio). Dr. Wooley also chaired a National Research Council study on the opportunities at the interface, which the National Academy of Sciences published (in Dec. 2005) as

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This lecture has a reception.

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