IMS Public Lecture

Back to the future: ancestral inference in molecular biology

Speaker: Professor Simon Tavaré University of Southern California

Date: Wednesday, 3 April 2002

Time: 6.00 - 7.00 p.m.

Venue: LT 31 (Faculty of Science Auditorium) Blk S16, Level 3, 3 Science Drive 2 National University of Singapore Singapore 117 543

<u>Simon Tavaré</u>

The speaker holds the George and Louise Kawamoto Chair of Biological Sciences and is Professor of Mathematics, and of Preventive Medicine at the University of Southern California. His research has focused on statistical problems arising in molecular biology, human genetics, population genetics, molecular evolution and bioinformatics. He has been on the editorial board of 11 international journals. He is an elected Fellow of the American Association for the Advancement of Science.

ABSTRACT

Technological advances in molecular biology have made it possible to survey genome-wide DNA sequence variation in natural populations. Many different types of data are now routinely generated and allow us to study molecular processes on a wide variety of time scales. For example we can compare distantly related species, or individuals from the same species, or cells within a given individual. The talk will focus on ancestral inference: what can we infer about molecular and historical processes using variation data? Several examples will be given to illustrate the ideas, including reconciliation of fossil and molecular estimates of divergence times, the estimation of the age of a mutation, and inference about the age of a colon tumor.



