48TH ANNUAL ROCKEFELLER UNIVERSITY
HOLIDAY LECTURES ON SCIENCE
ESTABLISHED BY ALFRED E. MIRSKY

Five Great Ideas of Biology

Lecture by **Paul Nurse**, Professor and President

Thursday, December 27, 2007

10:30 a.m.–2:30 p.m.

Lunch served
12–1 p.m.

Lecture will be held
in **Caspary Auditorium**

The Rockefeller University
1230 York Avenue
(at 66th Street)
New York, NY 10065

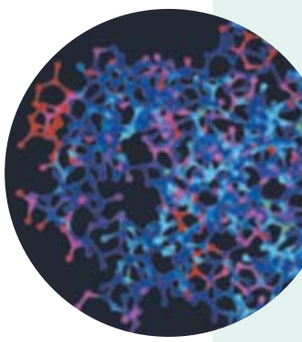
"Although biology is a subject that deals primarily in particulars, like the number of hairs on a beetle's leg, a handful of grand ideas have shaped our thinking about the nature of life."

For centuries, biologists like Darwin have been amassing countless details of life on Earth, from the length of a finch's beak to the rates of the chemical reactions that transform cells into purposeful machines. Having amassed some discoveries of his own, Rockefeller University's president and Nobel laureate Paul Nurse, a cell biologist and geneticist with a gift for seeing the big picture, distills more than 300 years of biology into five great ideas.

The result: an opportunity to hear the untold stories behind some of the most outstanding discoveries that will leave you with a new more global perspective of biology. If it wasn't for a young doctor who was a member of the forward-thinking group called "The Lunatics," we may never have come up with the idea that life evolves over time. If it wasn't for a crucial experiment that discovered yeast as the "producer of alcohol," the field now known as biochemistry may not have risen. And if it wasn't for a Delft spectacle maker and a London artisan with an insatiable curiosity, the cell may never have been identified as the fundamental unit of life.

As Dr. Nurse describes biology's great ideas — the cell, the gene, evolution by natural selection, life as chemistry and an emerging idea of biological organization — he thoughtfully weaves in the personalities of biology's most influential thinkers, providing a rare look into how desires and obsessions shape and steer the tortuous path toward scientific discovery.

Dr. Nurse, a world-renowned biologist who has broadened our understanding of how cells divide, has devoted his life to understanding the natural world. Whether looking up at the skies through his telescope or down at them from the seat of his airplane, Dr. Nurse has never lost sight of "the forest for the trees" and urges the next crop of biologists to do the same.



Left: Galapagos finch
Middle: Human chromosomes
Right: Potassium ion channel