

THE NNF CENTER FOR PROTEIN RESEARCH (CPR)

SEMINAR SERIES



CPR Greenhouse seminar room (6.2.09)
Panum Building, Copenhagen

Wednesday, 15 February 2012, 14:00

Dr. Donald Hilvert

“Designer enzymes”

Laboratory of Organic Chemistry, ETH Zürich, Zurich, Switzerland



Although it is now possible to create new enzyme active sites with immunological methods or by redesigning existing proteins, the chemical efficiency of these catalysts is typically considerably lower than that of naturally occurring enzymes. Genetic selection is a potentially general method for evolving the properties of these first-generation molecules.

Refreshments will be served after the talk

ALL ARE WELCOME

If you have any questions, please contact us (contact@cpr.ku.dk)

Abstract

Although nature evolves its catalysts over millions of years, enzyme engineers try to do it a bit faster. Enzyme active sites provide highly optimized microenvironments for the catalysis of biologically useful chemical transformations. Consequently, changes at these centers can have large effects on enzyme activity. The prediction and control of these effects provides a promising way to access new functions. The development of methods and strategies to explore the untapped catalytic potential of natural enzyme scaffolds has been pushed by the increasing demand for industrial biocatalysts. In this lecture, recent progress toward creation of enzymes capable of catalyzing any desired chemical reaction will be discussed.

Prof. Dr. Donald Hilvert

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Academic training: Prof. Dr. Hilvert (b. 1956) received his B.A. (1978) and Ph.D. (1983) from Brown and Columbia Universities, respectively.

Professional experience: Following postdoctoral work at Rockefeller University, Dr. Hilvert joined the faculty of the Scripps Research Institute (La Jolla, California), initially as an assistant professor (1986-1989), then as associate professor (1989-1993) and full professor (1994-1997). Since October 1997, Dr. Hilvert has been professor of chemistry at the ETH Zürich. He was an Alfred P. Sloan Research Fellow (1991-93) and received the Arthur C. Cope Scholar Award from the American Chemical Society (1992) and the Pfizer Award in Enzyme Chemistry (1994).

Publications: <http://www.protein.ethz.ch/publications.html> - 11

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