

# THE INAUGURAL CAROLYN & CHARLES KNOBLER LECTURE

## **Prof. Donald Hilvert**

Department of Chemistry & Applied  
Biosciences

Eidgenössische Technische Hochschule



*presenting*

## Design and Evolution of Protein Containers

Many proteins spontaneously self-assemble into regular, shell-like, polyhedral structures. Protein capsids are useful, both in nature and in the laboratory, as molecular containers for diverse cargo molecules, including proteins, nucleic acids, metal nanoparticles, quantum dots, and low molecular weight drugs. They can consequently serve as delivery vehicles, bioimaging agents, reaction vessels, and templates for the controlled synthesis of novel materials. In this lecture strategies for designing new protein containers and for extending their properties through computational design and directed evolution will be discussed. Such efforts may provide practical routes to non-viral encapsulation systems for applications in the test tube and in living cells.

Monday, January 12, 2015  
4:00 P.M.  
2033 Young Hall

Reception  
5:15 P.M.  
3037 Young Hall