Nobel Laureate 2010 COLLOQUIUM

Howard University
Department of Physics and Astronomy
presents

Dr. Douglas D. Osheroff

1996 NOBEL PRIZE IN PHYSICS

How Advances in Science Are Made

ABSTRACT: It is seldom the case that one can anticipate where great breakthroughs in science will occur, and even harder to anticipate where these breakthroughs will find applications to benefit mankind. In this talk, I will address the question of how discoveries in science occur, and will present a set of research strategies that can substantially increase the chances that one will make such a discovery. I will then trace the development of NMR as an example of a technology for which the applications were not at all obvious. Finally, I will use my own discovery of superfluidity in liquid 3He to show how most discoveries depend critically on contributions, often many, made by the progress of the scientific community at large.

Douglas Osheroff was born and raised in Aberdeen, Washington. He did his undergraduate work at Caltech, receiving his B.S. in physics in 1967. His graduate work was done at Cornell University, where his Ph.D. thesis work resulted in the discovery of three superfluid phases of liqud 3He. Leaving Cornell in the fall of 1972, he spent the next fifteen years in the physical research division at AT&T Bell Laboratories, the last six as the head of their Low Temperature and Solid State Research Department. There, in collaboration, he worked on the newly discovered superfluid phases of liquid 3He, the nature of nuclear spin order in solid 3He, and made the first observations of weak localization in thin disordered metallic films. In 1987, he came to Stanford University. At Stanford, Osheroff is the J.G. Jackson and C.J. Wood Professor of Physics and the Gerhard Casper University Fellow for Undergraduate Education. His research there still focuses on the properties of condensed matter near the absolute zero of temperature. In 2003 he served as a member of the Columbia Accident Investigation Board, which determined the causes of the accident that led to the destruction of Space Shuttle Columbia during re-entry, on Feb. 1, 2003.

Osheroff has received numerous honors for his research. These include the Sir Francis Simon Memorial Award, the Oliver E. Buckley Condensed Matter Physics Prize, the MacArthur Prize Fellowship Award, and the 1996 Nobel Prize for Physics.

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Wednesday, November 10, 2010
3:30 pm
Just Hall (Biology) Auditorium

For more information, please contact Dr. Prabhakar Misra | pmisra@howard.edu | (202) 806-6245