

## BIOGRAPHICAL SKETCH

David Snoke was born in New Jersey, USA, in 1961, and received his undergraduate degree from Cornell University (magna sum laude and with distinction in all subjects) in January, 1983. During and after college, he worked brief periods in the optics division of the Westinghouse Research and Development Lab on Pittsburgh with advisor Milt Gottlieb. He received his master's degree in physics and Ph.D. in physics from the University of Illinois at Urbana, Champaign, finishing in 1990. His work with his thesis advisor J.P. Wolfe and collaborating scientist A. Mysyrowicz focused on excitons in the semiconductor  $\text{Cu}_2\text{O}$ , and showed a unique saturation effect in which the temperature of the excitons scaled with density to follow the Bose-Einstein condensation phase boundary. He also published novel theoretical work on the onset of Bose-Einstein condensation in finite-lifetime systems.

From 1990 to 1992, he worked as a postdoc with Manuel Cardona at the Max Planck Institute for Solid State Physics in Stuttgart, Germany, first as an Alexander von Humboldt fellow and then as a staff scientist. In collaborations with Cardona, Karl Syassen, and Wolfgang Rühle, he worked on equilibration of carriers in semiconductors on ultrafast time scales, pressure effects in  $\text{C}_{60}$ , and excitons at room temperature in  $\text{Cu}_2\text{O}$ , bringing together a unique combination of theoretical and experimental work.

After a brief time as a staff scientist in the applied optics lab at the Aerospace Corporation from 1993-1994, he became an Assistant Professor in 1994 in the Department of Physics and Astronomy at the University of Pittsburgh, where he has been ever since, promoted to Associate Professor in 2001 and full Professor in 2008. In 2007 he received both the CAREER award of the US National Science Foundation and the Cottrell Scholar Award of the Research Corporation. He was elected a Fellow of the American Physical Society (Division of Condensed Matter Physics) in 2006, "for his pioneering work on the experimental and theoretical understanding of dynamical optical processes in semiconductor systems." In the past fifteen years the work in his experimental optics laboratory, supported by the National Science Foundation and the US Department of Energy, has focused fundamental physics effects in coupled quantum wells (bilayers), quantum dots, and Bose-Einstein condensates of polaritons. This work has been in large part a strong collaboration with Loren Pfeiffer, formerly of Bell Labs and now of Princeton University, who produces heterostructures of world-class quality for the experiments.

Snoke's lab was the first to show Bose condensation of polaritons in a controlled harmonic potential trap, using a unique method of applied stress to produce a potential minimum for the polaritons. This work was published in *Science* magazine in 2007. Very recently, his lab, in collaboration with Pfeiffer's group, has produced new structures with polaritons with very long (> 100 ps) lifetime, which open the door to a number of new possibilities for long-distance coherent effects.

Over the years, Snoke has started two new conference series, has published three scientific books, including a textbook on Solid State physics for Addison-Wesley, numerous review articles for *Nature*, *Science*, *Physics Today* and other journals, and has given over 80 invited talks and colloquia at international conferences and universities in over 20 countries.