CHESTNUT HILL, MA (February 2008) -- Boston College Asst. Prof. of Physical Chemistry Torsten Fiebig has been awarded a highly prestigious Alfred P. Sloan Foundation Research Fellowship, intended to enhance the careers of the very best young faculty members in specified fields of science, the Chemistry Department has announced.

A total of 118 Sloan Research Fellowships - which were established in 1955 to provide support and recognition to early-career scientists and scholars - are awarded annually in seven fields: chemistry, computational and evolutionary molecular biology, computer science, economics, mathematics, neuroscience, and physics.

Selection procedures are designed to identify those who show the most outstanding promise of making fundamental contributions to new knowledge.

"It's a great honor," said Feibig. "I feel fortunate to be among those recognized by the foundation. We pursue a level of excellence at Boston College, so I think this is as much a reflection on my research group, the Chemistry Department and my colleagues here at the university."

Fiebig, an assistant professor, joined the faculty of the Chemistry Department at Boston College in 2003. A native of Germany, he received his Ph.D. from the University of Gottingen in 1996 and was a post-doctoral fellow at the California Institute of Technology. Professor Fiebig's other honors include: a young investigator award from the Inter-American Photochemical Society (2008), the Grammatikakis-Neumann Award of the Swiss Chemical Society (2006); the Emmy-Noether Fellowship (2000), and the Otto-Hahn Medal of the Max Planck Society (1997).

Fiebig's physical chemistry research group is interested in a fundamental understanding of molecular interactions and ultra-fast processes in complex molecular structures – such as electron and proton transfer. The lab's primary focus is to develop and apply new technologies for probing real-time structural changes in biological systems – such as DNA. The underlying goal is to understand molecular function by probing structure and dynamics simultaneously.

"Many advances were made using crystal structures and the idea was that just seeing the molecules could allow you to understand their biology," Fiebig says. "But in addition to having a structural resolution and seeing the atoms in place, you need to know how they behave dynamically on various time scales – from ultra-fast to very slow. These time frames are crucial to understanding the biological functions of any system – be it chemical or biological."
Currently, the Fiebig research group investigates the interaction of ultra-violet radiation with DNA on the ultra-fast time scale in order to address the question of how excess energy dissipates in nucleic acids. The research addresses a long-standing issue in DNA photophysics and could provide new insight into the damage caused to DNA by sunlight – damage that is often a precursor to cancer and other diseases.

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