



University of Connecticut

NEWS RELEASE

UConn Professor wins Connecticut Medal of Science

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Photo available at: <http://dropbox.uconn.edu/dropbox?n=Birge13.jpg&p=W1Vner98jLu0K35d>

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May 20, 2009

STORRS, Conn. – Robert R. Birge, The Harold S. Schwenk, Sr., Distinguished Chair in Chemistry at the University of Connecticut, has won the 2009 Connecticut Medal of Science, the state’s highest award for scientists.

Frank W. Ridley, chairman of the Board of Governors for Higher Education, presented the award at the annual meeting of the Connecticut Academy of Science and Engineering in Windsor Locks on May 20.

“Dr. Birge’s pioneering work in protein engineering and biomolecular electronics has led to seminal discoveries in the fields of vision, quantum computation, and protein-based data processing,” stated Ridley. “His efforts have boosted the growth and national reputation of UConn’s science programs, and have immeasurably strengthened Connecticut’s economic position.”

Birge is known for his basic research on protein structure and function and in biomolecular electronics, yielding breakthroughs that lead to technological developments.

He has used a protein from an archaea, a bacteria-like organism that has been on the planet for 3.5 billion years, to make artificial retinas, for example.

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He was the first scientist to propose using proteins to store data. A protein-based disk drive that his research group developed in 1982 was the first such memory device ever produced.

He has pioneered the use of many methods to study biological molecules. His research group in 1978 was the first to apply a new spectroscopic technique to reveal previously unavailable information about a biological molecule, vitamin A.

Scientists who supported his nomination for the Connecticut Medal of Science called him a superb teacher and communicator whose broad interests combine basic science and technology.

His current research on vision concerns the deep red pigments in the cone, or color-sensing part, of the retina. His research team has already solved fundamental questions about how UV pigments in cones function.

He has written widely about the molecular basis of vision. His research also has far-reaching implications for the development of molecular electronic devices. His ultimate goal is to make a computer with true artificial intelligence.

He typically works with scientists from other fields, including physicists and biologists. He worked with researchers at UConn's Institute of Materials Science to establish a Center for Nanobionics, which has given UConn and the state a competitive advantage in an economically important field.

"The Academy's recognition of Dr. Birge's contributions to our understanding of the molecular components of visual perception is especially timely," said UConn President Michael J. Hogan. "He is working at the forefront of our nanobionics initiatives at the University, which have incredible potential as the technology of new biochemical and biomedical research."

Birge came to the College of Liberal Arts and Sciences at UConn in 1999 after heading the chemistry department at Carnegie Mellon University and directing the W. M. Keck Center for Molecular Electronics at Syracuse University, one of the first research centers in the country to make bioelectronic devices.

He has deep roots in Connecticut, however. One of his paternal ancestors, John Birge, founded several clock companies in Bristol, Conn., in the early 1800s.

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Robert Birge grew up on Long Island, attended Choate School in Wallingford, and received his bachelor's degree from Yale University, where he studied chemistry and was musical director of the Yale Whiffenpoofs. He received his PhD in chemical physics from Wesleyan University and was a postdoctoral fellow at Harvard University.

Birge's previous awards include the 3M Award of Canada in Physical Chemistry, a basic research award to physical chemists; the Connecticut Innovations 2001 Annual Technology Award; and a *Time* magazine Digital Top 50 Cyber Elite honor that identified some of the nation's foremost innovators.

The Connecticut Medal of Science, modeled after the National Medal of Science, was created by the state legislature to recognize extraordinary achievements in scientific fields crucial to Connecticut's economic competitiveness. The awards are made by the Board of Governors for Higher Education, the state's policy-making agency for Connecticut colleges and universities, with assistance from the Connecticut Academy of Science and Engineering.

Birge is the fifth recipient of the science medal.

To hear a podcast by Prof. Birge describing his latest research, go to <http://www.clas.uconn.edu/facultysnapshots/view.php?id=birge>

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