WAYNE STATE UNIVERSITY
SCHOOL OF MEDICINE

Department of Biochemistry
and Molecular Biology

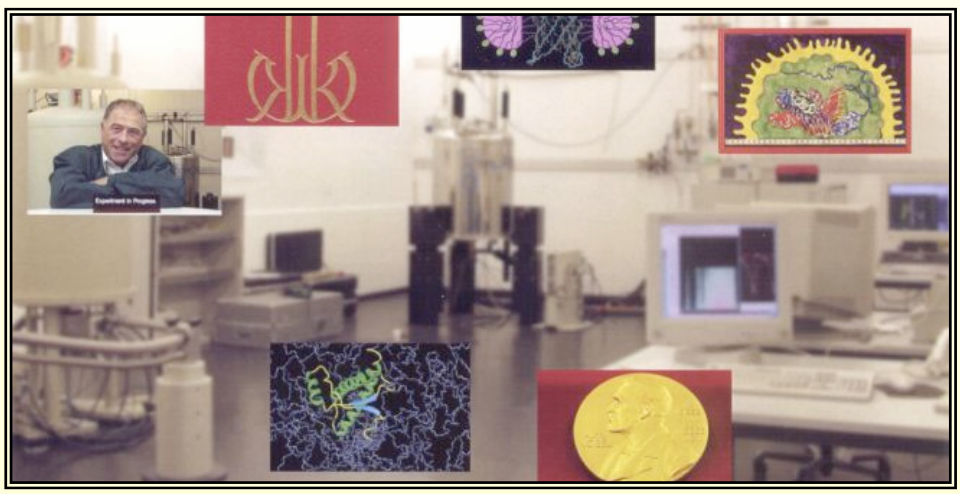
The 14th Aline U. and James M. Orten Memorial Lecture

Kurt Wüthrich , Ph.D.

Professor of Biophysics
ETH, Zürich, Switzerland
Cecil H. and Ida M. Green Professor of Structural Biology
The Scripps Research Institute, La Jolla, CA

2002 Nobel Laureate in Chemistry

Structural Biology and Structural Genomics using NMR



Kurt Wüthrich was awarded the 2002 Nobel Prize in Chemistry for the development of nuclear magnetic resonance (NMR) methods to determine the three-dimensional structure and dynamics of proteins. He developed a general method of systematically assigning certain fixed points in the protein molecule and a principle for determining the distances between these that could be used to calculate the three-dimensional structure of proteins. With NMR, proteins can be studied in solution, an environment similar to that in living cells.

Tuesday, May 29, 2007
Noon
Jaffar Lecture Hall, Scott Hall

About Professor Wüthrich: Kurt Wüthrich was born in Switzerland in 1938. He studied chemistry, physics and mathematics at the University of Bern, and obtained the Eidgenössisches Turn- und Sportlehrerdiplom and a Ph.D. in inorganic chemistry at the University of Basel. He was a postdoctoral fellow in Basel and at the University of California in Berkeley, CA, USA, and then a member of Technical Staff at Bell Laboratories. In 1969 he joined the ETH in Zürich, Switzerland, where he is currently Professor of Biophysics. Since 2001 he has also been in La Jolla, CA, where he is currently the Cecil H. and Ida M. Green Professor of Structural Biology affiliated with the Scripps Research Institute. Professor Wüthrich's research specialty is high resolution nuclear magnetic resonance (NMR) spectroscopy with biological macromolecules. He developed NMR methods for three-dimensional structure determination of proteins and nucleic acids in solution, heteronuclear filter techniques for studies of intermolecular interactions in supramolecular structures, NMR experiments for studies of macromolecular hydration in solution, and the extension of solution NMR studies to very large molecular weights with the use of transverse relaxation-optimized spectroscopy (TROSY) and cross-correlated relaxation-enhanced polarization transfer (CRINEPT). The Wüthrich group has solved more than 50 NMR structures of proteins and nucleic acids, including the immunosuppression system cyclophilin A–cyclosporin A, the homeodomain–operator DNA transcriptional regulation system, and the murine, human and bovine prion proteins. Wüthrich's bibliography includes over 600 papers and reviews, and three monographs. Professor Wüthrich has been awarded many honorary degrees from all over the world and he has also held numerous endowed lectureships and visiting faculty appointments at leading universities and institutions. Besides his research and teaching, Wüthrich also held leadership positions in several scientific organizations over past 30 years. In particular, he was the Secretary General and Vice-President of IUPAB between 1978 and 1987 and is a member of the US National Academy of Sciences. He was awarded the Nobel Prize in Chemistry in 2002 for his for his development of nuclear magnetic resonance spectroscopy for determining the three-dimensional structure of biological macromolecules in solution.

The Orten Lectureship: Dr. James M. Orten was a respected faculty member in the Department of Biochemistry from 1937 until his retirement in 1975, when he continued as Professor Emeritus of Biochemistry until his death on March 2, 1991. He was an excellent teacher and was popular among students. He was well known for his text books in biochemistry and for his research in the areas of porphyrin-heme biosynthesis, nutrition and intermediary metabolism. For his contributions, Dr. Orten was elected a Fellow of the American Institute of Nutrition. Dr. Aline U. Orten received her Ph.D. in biochemistry from Yale University in 1937 and came to the Wayne State University School of Medicine later that year as an instructor of physiological chemistry. Over the next half-century, the Ortens served as dedicated members of the Wayne State community. The James M. Orten Memorial Fund was established through the generous donations of Dr. Aline U. Orten, as well as friends of the Ortens. The fund was created to benefit graduate and postdoctoral students in the Department of Biochemistry and Molecular Biology. It allows the graduate students and postdoctoral associates to invite a renowned researcher in the field of biochemistry and molecular biology to present the James M. Orten Lecture. In addition it gives them an opportunity to meet with and interact personally with an internationally renown scientist. Upon her death on February 16, 2000, the fund was renamed the Aline U. and James M. Orten Memorial Lecture to honor both Drs. Orten.