

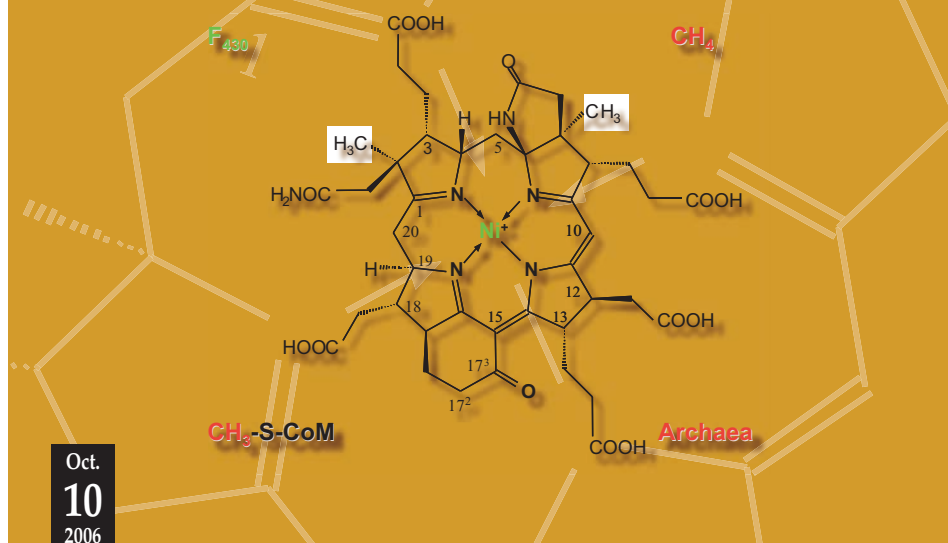
Previous Nelson J. Leonard Lecturers

1987	James P. Collman	Stanford University
1988	Sir Derek H. R. Barton	Texas A&M University
1989	Christopher T. Walsh	Harvard Medical School
1990	Donald J. Cram	University of California, Los Angeles
1991	Richard R. Ernst	Eidgenössische Technische Hochschule, Zürich
1992	Thomas A. Steitz	Yale University
1993	K. Barry Sharpless	Scripps Research Institute
1994	Rudolph A. Marcus	California Institute of Technology
1995	Phillip A. Sharp	Massachusetts Institute of Technology
1996	Martin Rodbell	National Institute for Environmental Health Sciences
1997	John D. Roberts	California Institute of Technology
	Sidney M. Hecht	University of Virginia
	Peter G. Schultz	University of California, Berkeley
	Albert Eschenmoser	Eidgenössische Technische Hochschule, Zürich
1998	F. Sherwood Rowland	University of California, Irvine
1999	Jean-Michel Savéant	Centre National de la Recherche Scientifique
2000	David A. Tirrell	California Institute of Technology
2001	Alastair Ian Scott	Texas A&M University
2002	Amos B. Smith III	University of Pennsylvania
2003	Lawrence J. Marnett	Vanderbilt University
2004	Robert S. Langer	Massachusetts Institute of Technology
2005	Thomas R. Cech	Howard Hughes Medical Institute University of Colorado at Boulder
2006	Joseph M. DeSimone	University of North Carolina-Chapel Hill

Nelson J. Leonard Distinguished 2006/07 LECTURER

Rolf
Thauer

Max Planck Institute for Terrestrial Microbiology



Oct.
10
2006

Nickel Enzymes and the Three Princes of Serendip

4:00 p.m.

B102 Chemical Life Sciences Laboratory

A reception will immediately follow lecture in the CLSL-A Atrium

Oct.
11
2006

The Active Site of Hydrogenases

4:00 p.m.

B102 Chemical Life Sciences Laboratory

Lectures are dedicated to the contributions of Professors Carl R. Woese and Ralph S. Wolfe

SCHOOL OF CHEMICAL SCIENCES

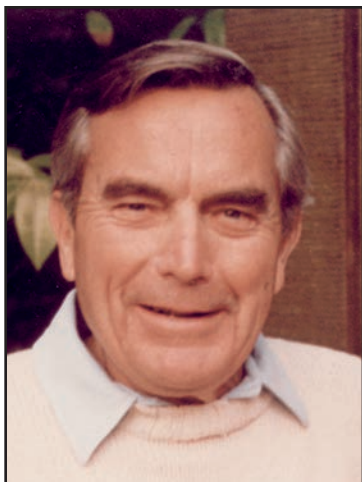
ILLINOIS
UNIVERSITY OF URBANA-CHAMPAIGN

Nelson J. Leonard

This lecture series is sponsored by the Nelson J. Leonard Distinguished Lecturer Fund, set up in 1986 by the late Mrs. Louise Leonard, Eli Lilly and Company, the Monsanto Company, Organic Syntheses, Inc., and Professor Leonard's colleagues and students. At the time of his retirement in 1986, Professor Leonard had been at the University of Illinois for 44 years, directed 120 graduate students, and published over 400 papers.

Professor Leonard received his B.S. from Lehigh in 1937, a B.Sc. from Oxford in 1940, a Ph.D. from Columbia in 1942, and a D.Sc. from the University of Oxford in 1983. He has also received three honorary doctors' degrees.

Internationally acclaimed for his skill in organic synthesis, his work has answered questions of fundamental importance to biochemistry and life processes. He has invented fluorescent probes and dimensional probes of enzyme-coenzyme binding sites and DNA double-helical cross sections.



Among his many honors are the ACS award for Creative Work in Synthetic Organic Chemistry (1963), the Medal for Creative Research in Synthetic Organic Chemistry of the Chemical Manufacturers Association (1970), the Roger Adams Award in Organic Chemistry (1981), the first Creativity Award, University of Oregon (1994), and the first Paul G. Gassman Distinguished Service Award, Division of Organic Chemistry, American Chemical Society (1994). He is a member of the National Academy of Sciences, a foreign member of the Polish Academy of Sciences, a fellow and past vice-president of the American Academy of Arts and Sciences, a member of the American Philosophical Society, and an honorary member of the Pharmaceutical Society of Japan.

Professor Leonard is now a Faculty Associate in Chemistry at the California Institute of Technology.

Rolf Thauer

Rolf Thauer is Founding Director of the Max Planck Institute in Marburg and Professor of Microbiology at the Philipps University Marburg. He studied medicine and biochemistry at the Universities of Frankfurt, Tübingen and Freiburg, and earned his Ph.D. from Freiburg with Karl Decker in 1968. During his postdoc, he worked for 3 months in the laboratory of Harland G. Wood in Cleveland, Ohio.

Dr. Thauer has been interested in the biochemistry and physiology of strictly anaerobic bacteria since his Ph.D. work. In 1977 he published with Kurt Jungermann and Karl Decker (*Bacteriological Reviews*, Vol. 41, pp 100-180), which rapidly became a citation classic. From *Clostridia* he turned to sulfate reducing bacteria and methanogenic archaea growing on H_2 /sulfate and H_2/CO_2 , respectively. In 1979 his group discovered that methanogenic archaea are dependent on nickel for growth, which led to the discovery of nickel in hydrogenases, in carbon monoxide dehydrogenases and in methyl-coenzyme M reductase. The latter enzyme was found to contain the nickel porphyrinoid F_{430} as prosthetic group, whose structure and biosynthesis was elucidated in collaboration with A. Eschenmoser.



Work in the 90's concentrated on the purification and characterization of the enzymes involved in CO_2 reduction to methane. Subsequently the crystal structure of the enzymes were determined to obtain insight into their catalytic mechanism. His most recent studies deal with the elucidation of the structure and function of two novel cofactors, one involved in H_2 activation and the other in anaerobic methane oxidation.

In addition to his research and teaching positions, Dr. Thauer served as Dean of the Faculty of Biology in Marburg (1981), as Vice President of the Deutsche Forschungsgemeinschaft (1983 – 1987), and as Founding Director of the Max Planck Institute in Marburg since 1991.

Among his honors are the Otto Warburg Medaille (1984), the Gottfried Wilhelm Leibniz Prize (1987), the Carus Medaille (1992), the A. J. Kluyver Memorial Lecture (1995), the Albert Neuberger Lecture (1997), the Marjory Stephenson Prize Lecture (1998) and the Honorary Doctorate of the ETH Zürich (2001). Since 1984 he is a member of the Leopodina and since 1987 of the Academia Europaea.