

Prelog Lecture 2003

Eidgenössische Technische Hochschule Zürich
Laboratorium für Organische Chemie

Abstract: On Monday, November 10, 2003, the vice-president, Prof. Dr. Gerhard Schmitt, presented the Prelog Medal 2003 to **Prof. Dr. Andreas Pfaltz**, Department of Chemistry, University of Basel, Switzerland. The title of the lecture that followed was 'Design of Chiral Ligands for Asymmetric Catalysis'.

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Foto: R. Häflicher

Andreas Pfaltz

Gerhard Schmitt

The 2003 Prelog Medal Winner, **Prof. Dr. Andreas Pfaltz**, was born in Basel, Switzerland in 1948. He carried out his diploma and doctoral studies at ETH Zürich under the direction of Prof. Dr. A. Eschenmoser, obtaining his doctoral degree in 1978. Professor Pfaltz subsequently furthered his professional training as a post-doctoral fellow at Columbia University working with Prof. Dr. Gilbert Stork. From 1980–1986 he was a member of the scientific staff at ETH Zürich. He held an appointment as Privatdozent from 1987–1990 at the same institution before accepting a position as associate professor at the University of Basel in 1990. Rapidly rising through the academic ranks, he was promoted to professor of organic chemistry in 1993 at the University of Basel. From 1995–1998 he held a prestigious appointment as a director at the Max-Planck-Institut für Kohlenforschung at Mülheim-Ruhr in Germany where he served as head of the homogeneous catalysis section.

In 1999 he returned to the position of professor of organic chemistry at the University of Basel, where he currently has an

active, prolific program in chemistry. His outstanding contributions to organic chemistry have been recognized with numerous awards, such as the Werner Prize of the Swiss Chemical Society (1989), the Wilhelm Manchot Research Professorship at TU-München (2002), and the Pracejus Prize of the German Chemical Society (2003).

Professor Pfaltz has established a broad-based research program in chemistry that spans the disciplines of heterogeneous/homogeneous catalysis as well as asymmetric synthesis, with substantial impact for the preparation of biologically active substances such as pharmaceuticals, fragrances, and crop protective agents. He is a pioneer in the discovery and development of new families of optically active ligands for catalytic asymmetric synthesis.

Of significance in his early work was the discovery of bisoxazoline ligands, which he elegantly demonstrated were useful in a number of catalytic asymmetric processes. The speed with which a number of research groups world-wide in the Americas, Asia, and Europe successfully adopted these privileged structures into their own research endeavors attests to the importance and impact of these early observations and discoveries in the field of asymmetric catalysis. Ligand discovery and design is a theme that continues to thrive in Professor Pfaltz's laboratories to include new families of innovative ligands for a variety of challenging processes in catalysis such as asymmetric olefin reduction.

Unique to Professor Pfaltz's research program is the coupling of reaction discovery with mechanistic understanding that is linked to his quest for novel ligands with which to control and channel in useful di-

rections the reactivity of transition-metal complexes. In addition to his program in homogeneous catalysis Professor Pfaltz has made significant contributions in heterogeneous catalysis, as evidenced by his extensive publications in this area and collaborative efforts with industry and academic groups. His scientific work is immediately recognizable as a result of its high quality, innovation, and scholarship.

Former Prelog Lecturers

1986	Kurt Mislow
1987	Meier Lahav and Leslie Leiserowitz
1988	K. Barry Sharpless
1989	Jeremy R. Knowles
1990	Henri B. Kagan
1991	Clayton H. Heathcock
1992	J. Michael McBride
1993	Hisashi Yamamoto
1994	Jean-Pierre Sauvage
1995	Yoshito Kishi
1996	David M.J. Lilley
1997	Günter Helmchen
1998	Lia Addadi
1999	David Evans
2000	Helmut Schwarz
2001	Robert H. Grubbs
2002	David E. Cane