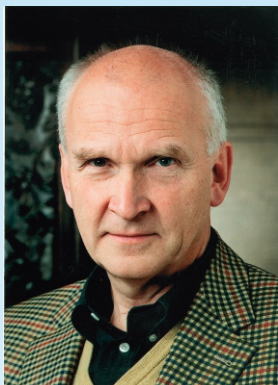


REGIONAL CENTRE OF ADVANCED TECHNOLOGIES AND MATERIALS

RUDOLF ZAHRADNÍK LECTURE

General Director of RCPTM cordially invites you to the lecture
in the framework of **RUDOLF ZAHRADNÍK LECTURE SERIES**

This talk will be delivered by



Prof. Wolfgang Lindner
(University of Vienna)



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„Chromatographic Resolution of Enantiomers on Chiral Ion Exchanger: Conceptional Reflections”

**Friday, February 14, 11:00, assembly hall of Faculty of Science,
17. listopadu 12, Olomouc.**

Wolfgang F. Lindner was appointed 1996 the Chair of Analytical Chemistry at the University of Vienna. His research interests were influenced by pharmaceutical (life) sciences and by separation sciences related to HPLC, GC, CE/CEC and MS. In this context special focus was drawn towards non-covalent molecular interactions and recognition phenomena within the frame of stereochemistry and enantiomer discrimination. The development of novel synthetic selectors (receptors) useful for enantioselective separation techniques but also for bioaffinity chromatography lies at the interface of organic, analytical and biological chemistry which characterizes best his scientific credo.

Wolfgang Lindner was trained in Organic Chemistry receiving his PhD in 1972 in Graz. He moved on to Pharmaceutical Analysis. In 1978 he made a postdoc stay at Prof. Barry L. Karger's labs at North Eastern University in Boston (USA). In 1986 he was visiting scientist at the FDA/NIH in Bethesda (USA). He has published more than 430 scientific papers, 12 book articles, holds 15 patents, etc. He has received a number of awards among them are the Chirality Medal, the ACS Award for Chromatography, the AGP Martin Medal, etc.

Abstract: Over the recent years the chromatographic resolution of enantiomers of very different chemical structure has become state of the art. In this lecture first the underlying stereoselective molecular recognition principles will be discussed followed by a focus on the enantiomer separation of chiral acids, bases and ampholytes using chiral ion exchange type stationary phases (CSPs) which we developed in our laboratory. As chiral template for selector development we selected the quinine and quinidine motif and systematically modified these pseudo-enantiomerically behaving moieties to reach optimised and dedicated chiral selectors to be then immobilised onto porous silica thus leading to the CSPs and chiral columns.

These novel materials proved to be particularly successful for the challenging resolutions of e.g. free amino acids, short peptides, etc. On the basis of such type applications we will further discuss the parameters influencing the retention and stereoselectivity characteristic of these CSPs being used in liquid (LC) and super critical fluid chromatographic (SFC) mode.