Eduard Hála
1919 – 1989

Profesor fyzikální chemie VŠCHT v Praze a řádný člen Československé akademie věd, zástupce ředitele Ústavu teoretických základů chemické techniky ČSAV.
Vynikající fyzikální chemik, světově proslulý zejména svými fundamentálními pracemi v oboru rovnovah kapalina-pára, skvělý pedagog a vynikající osobnost známá nejen na Akademii věd, ale ve světové chemicko-inženýrské komunitě vůbec. Významnou měrou se zasloužil o rozvoj oboru fázových rovnovah v celosvětovém měřítku.
K uctění památky profesora Hály se vedení ústavu rozhodlo pořádat každoročně pamětní Hálovu přednášku, k jejímuž pronesení jsou zváni vynikající světoví odborníci v oborech, které se na ústavu studují.

Professor of Physical Chemistry at the Institute of Chemical Technology Prague and member of the Czechoslovak Academy of Sciences, deputy director of the Institute of Chemical Process Fundamentals CAS.
Excellent physical chemist, world-renowned mainly for his fundamental work in the field of vapour-liquid equilibria, a great teacher and a great personality known not only to the Academy of Sciences, but in the global chemical engineering community in general. He contributed significantly to the development of phase equilibria worldwide.
As a tribute to Professor Hála, the annual Eduard Hála Lectures have been organized since 1990. The lectures are delivered by renowned specialists in topics studied at the Institute.

List of previous E. Hala Lectures:
http://www.icpf.cas.cz/en/e-hala-lectures

Institute of Chemical Process Fundamentals
of the CAS, v. v. i.

20th E. Hála Lecture

NMR Metabolomics

delivered by

Prof. Claudio Luchinat

Magnetic Resonance Center and Department of Chemistry,
University of Florence
Italy

Wednesday, 14th November 2018 at 10 a.m.
Conference hall of ICPF

Institute of Chemical Process Fundamentals
of the CAS, v. v. i.

NMR Metalobolomics

It has been shown that individual metabolic profiles exist and are stable over periods of many years, insensitive to alterations of lifestyles or mild disease conditions, but sensitive to the onset of major diseases from a very early stage. Examples of successful metabolomics profiling from our laboratory are for the diagnosis of potential celiac disease, the prediction of relapse for breast cancer, the prediction of survival of metastatic colorectal cancer, and the early diagnosis of heart failure. Typical diagnostic accuracies range between 80-90%, which is remarkable considering that they can be obtained in the absence of clinical symptoms, and that they can be obtained from a single NMR profile by comparing it with the databases of a number of different diseases. Diagnostic accuracies improve dramatically if the profile of an individual is compared with earlier profiles of the same individual. These evidences suggest that metabolomics by NMR can become a first-line, population-wide screening method. Metabolomic profiling of body fluids by NMR can be obtained in minutes, has unsurpassed reproducibility, and low costs (a few tens of Euro when done in high-throughput mode).

Claudio Luchinat is full Professor of Chemistry at University of Florence, Director of CERM (Center of Magnetic Resonance) and of CIRMMP (Interuniversity Consortium on Magnetic Resonance of MetalloProteins). His research interests include development of NMR-based structural methodologies, electron and nuclear relaxation, NMR of paramagnetic species, relaxometry, bioinorganic chemistry and, more recently, metabolomics. His Scholar h-index is 79, and his papers have been quoted more than 25.000 times.

He has held seminars in many prestigious universities and research institutions worldwide, and plenary lectures in International Workshops, Symposia and Conferences. He has been awarded the 1989 gold medal "Raffaello Nasini", the 1994 Premio Federchimica "For an Intelligent Future", the 1996 European Medal for Biological Inorganic Chemistry by SBIC, the 2001 GDRM gold medal, and recently the Premio Sapio 2017 and the prestigious Richard R. Ernst Prize in Magnetic Resonance (2018).