

## **LAUDATIO**

In honour of Professor doctor **Rolf HEMPELMANN**,  
Saarland University, Saarbrücken, Germany,  
on the occasion of the awards ceremony of the title  
*Doctor Honoris Causa* of Alexandru Ioan Cuza University of Iasi

May 18, 2017

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## Laudatio

In honour of Professor doctor **Rolf Hempelmann**, Saarland University, Saarbrücken, Germany

Last year, in February, Professor Rolf Hempelmann reached the age of 65, being celebrated by colleagues at the Saarland University, and from the Korean Institute of Science and Technology KIST Europe from Saarbrücken where he has been working for the last twenty years. This year we are celebrating 10 years of very close cooperation between the Faculties of Physics and Chemistry of Alexandru Ioan Cuza University of Iași, and the Department of Physical Chemistry of the Saarland University which Rolf Hempelmann led from his first appointment as a professor at the University of Saarland in 1993.

As a Professor Emeritus of the Faculty of Natural Sciences and Technology, Professor Hempelmann is now Director of Technological Transfer Center for Electrochemistry and continues cooperation with KIST Europe from the position of head of Group research in Electrochemistry and New sources of Energies.

Alexandru Ioan Cuza University maintains academic and scientific relationships with many first-ranked universities in Europe, among which the University of Saarland and Professor Rolf Hempelmann bears a great deal of merit for this. A friend and supporter of Romania, Rolf Hempelmann has encouraged and supported the professional development of students and young researchers from Romania offering generous funding from projects he led and/or opportunities for longer periods or

shorter internship programmes by Erasmus, Marie Curie EU funds or German Agencies (DAAD, DGB etc.) stipends.

A very dynamic person with a lot of academic and/or professional responsibilities, with an always-full agenda, Professor Rolf Hempelmann visited our university on several occasions, teaching for M.Sc. and PhD students, and discussing with young researchers speaking passionately on two main topics: Chemistry and Science Education, promoting technological progress and sustainable schülerlabors as poles of excellence attracting students to the study of science technology, engineering, mathematics and computer science.

Born in Herford (Germany) in a family of high school teachers, on 27 February 1951, he went to elementary school and high school at Münster. In high school, he chose a human sciences profile where he developed his musicianship that he valued during the military service when acted in Musician Army Corps.

In 1970 he started attending Münster University, studying Chemistry and French language, at the same time studying the cello at the University of Dortmund. He graduated the Chemistry specialization in 1976 with the thesis: Magnetic Susceptibility of Titanium-Iron and Titanium-Nickel and their Hydrides under the supervision of the famous Prof. Dr. Dr. h. c. Ewald Wicke. He continued to work in Professor Wicke's group for the Ph. D. thesis he completed in 1980. The thesis was based on the construction of a magnetometer operating at low temperatures.

Between 1980-1993, he worked as a researcher at the Research Institute from Jülich in the Group of Prof. Dr. T. Springer using neutron diffraction and vibrational spectroscopy of various magnetic structures and materials. With the help of elastic scattering techniques and inelastic neutron backscattering, he studied the dynamics of hydrogen in metal hydride systems or of metals through  $\mu$  SR (Muon-Spin-

Rotation/Relaxation/Resonance). He made long campaigns for measurement at CERN. Between 1985-1987 at Jülich, he decisively contributed to the construction of a back scattered neutron spectrometer with a beam 45 times more intense than in the old mass spectrometer.

In January 1987 he defended the external habilitation at University of Aachen in the field of physical chemistry with the thesis: "Neutron Scattering on Hydrides of Intermetallics".

In May 1987 he is awarded the Nernst Prize offered by the German society of physical chemistry (Deutsche Bunsen-Gesellschaft für Physikalische Chemie) for his contributions to deciphering "The Structure of Alloy Hydrides, Dynamics of Hydrogen in Lattices and Advancement of Hydride Neutron Vibrational Spectroscopy".

For a year, starting with July 1987, he has been senior fellow at the National Laboratory in Los Alamos (USA) where he performs Neutron scattering experiments. He collaborated with dr. Price at Argonne National Laboratory, and with J. J. Rush from the National Institute of Standards and Technology (NIST) in Washington DC. He gave numerous lectures and seminars in American universities and research centers on his contributions on Neutron Vibrational Spectroscopy.

In May 1993, he became the Chair of the Physical Chemistry Department at Saarland University. Areas of research at Saarland University are a continuation of the research done at the Institute from Julich, but evaluated more focused on new materials and new technologies with industrial applications.

Between 1995-2001, he was a member of the Scientific Committee of the Paul Scherrer Institute of Switzerland and contributed decisively to the design and implementation of SINQ source (Spallation Neutron Source). In the period between 1994-2014, he was also involved in the construction and operation of

FOCUS Spectrometer (Neutron time of flight spectrometer) from the Paul Scherrer Institute from Villigen (Switzerland).

Since 1997, he has been a member of the Scientific Committee of the Korean Institute of Science and Technology, the Saarbrücken branch.

In the period 1998-2002 he was the Executive Director of collaborative research Centre of Saarland SFB which undertakes an extensive research of interface phenomena dominated by surface phenomena.

For eight years (2000-2008), in parallel with academic activities, he engaged in spin off activities and created the Company SusTech GmbH & Co KG in Darmstadt.

In the 2000-2008 period, he was a member of the Steering Committee of the EU COST Action "Specific Chemical Functionality at Nanoscale".

Since 2003 he is director of the Schülerlabor NanoBioLab of the University of Saarland. In 2006 he was the initiator of the Foundation SchülerLabors in the District of Saarland and in 2010 he founded the German Schülerlaboren Association (LernortLabor). He established the magazine of LernortLabor Association "LeLa".

For three years between 2003-2006, he was representative of the University of Saarland in Committee IZES for unconventional energies (Institut für Zukunftsenergiesysteme) of Saarbrücken and was Director of the Scientific Committee.

He was for short periods of time Chair of the Department of Chemistry and Dean of the Faculty of Chemistry.

He initiated and organized international conferences that became representative for Europe and beyond, as well as International Nanochemistry Workshop. Is the senior member of the Professional German Association of Physical Chemistry Bunsen and member of the Editorial Committee of the journal Zeitschrift für Physikalische Chemie.

In recognition of scientific merits and determining role in organizing the Association LernotLabors in 2010, he received the medal "Bundesverdienstkreuz" for merits in promoting scientific education activities for young people provided by German Chancellor Angela Merkel.

Surely many will ask what is the key to success in the professional and social life of Professor Rolf Hempelmann, who managed to merge the profession of researcher in physics and chemistry with the desire to inspire young people to study science and passion for music. The answer can be given only by those who have spent at least one week with Professor Hempelmann. All everyday activities are carried out with the precision of Wittner metronome probably much loved during the hours of cello practice. Giving trust to the experienced colleagues in fruitful discussions, challenging young PhD students and launching new path for researches, spending time in teamwork activities, contacting donors or participating in meetings, shortening telephone calls, preparing a concert and focusing on problems solving, effective and focused discussions with administrative personnel, etc. make a day's work of professor perfectly in terms of management of projects and teams, and social constraints.

In recent years, the Hempelmann research group's activities focused on Chemistry of Nano colloids and Electrochemistry, in particular on the study of functional materials for use in the energy production, transformation and storage in unconventional or innovative way.

The name of Professor Rolf Hempelmann lies among the authors of over 330 ISI papers with a Hirsch factor of 32, among the authors of the 27 families of patents and on the cover of the 3 books published by reputable publishing houses.

Professor Rolf Hempelmann taught numerous classes of students on Physical Chemistry and Materials Chemistry

Branches, but also held weekly lectures to high school students enrolled in the Junior Student Master Classes at Saarland University.

The undisputed evidence that Professor Hempelmann is an exhaustive and nonconventional source of creative energy is that in March 2017 he founded a Transfer Centre for Sustainable Electrochemistry through the merger of the pre-existing centers which he coordinated before.

It's hard to establish international collaborations on list research group of Professor Rolf Hempelmann.

Among the numerous scientific collaborations, established internationally by Professor Hempelmann is the time to mention the cooperation with the faculties of Chemistry and Physics at the Alexandru Ioan Cuza University of Iasi. Professor Rolf Hempelmann generously offered opportunities for research internships for longer or shorter periods of time in the laboratories of the Department of Physical Chemistry at the University of Saarbrücken. Students in the undergraduate cycle or master's degree, doctoral students or researchers with experience have benefited from the infrastructure of Saarland University and mentoring in Erasmus programs, Scholarships, or DAAD scholarships financed by German agencies through projects initiated by Rolf Hempelmann.

The proposal to award the title of Doctor Honoris Causa of the Alexandru Ioan Cuza University of Iasi to Professor Rolf Hempelmann is a recognition of his ambitious and extraordinary didactic and scientific career and for the spirit of cooperation which made possible the development of fruitful relationships between Alexandru Ioan Cuza University of Iasi and Saarland University, for the exceptional professional and moral qualities, a friend of our University.

In recognition of the extraordinary results obtained in scientific research that have changed the paradigm of knowledge in the field of neutron spectroscopy, combustion cells with hydrogen and the important contribution Professor Rolf Hempelmann had in clarifying the role played by schülerlabors in increasing the interest of youth for the study of science and technology and last but not least for the development of friendly relations of cooperation between our universities, today, May 18<sup>th</sup> 2017, Alexandru Ioan Cuza University of Iasi awards Professor Rolf Hempelmann the title of Doctor Honoris Causa.

## **The Laudatio Committee**

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Professor **Tudorel TOADER** Ph.D., Rector of Alexandru Ioan Cuza University of Iași

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Iași, May 18<sup>th</sup> 2017