

Professor Dr Joachim Heitbaum

In September 2005 Prof. Dr Joachim Heitbaum celebrated his 65th birthday. To mark the occasion, several colleagues, who had had the opportunity to collaborate with Prof. Heitbaum and to benefit from his work, agreed to dedicate research papers for a special issue of this journal in appreciation of his significant contributions to electrochemistry.

To the electrochemical community Prof. Heitbaum is known for his pioneering work on the development of techniques for the on-line detection of electrochemical reaction products. One of these, differential electrochemical mass spectrometry (DEMS), was based on an approach originally suggested by Bruckenstein, but improved in such a way that the detection of volatile products became possible within a 10th of a second and adsorbates could be detected with a sensitivity of 1% of a monolayer. This technique has been continuously developed and is presently used by many groups working on electrocatalysis, batteries and fuel cells. Professor Heitbaum was also the first to couple an electrochemical cell to a spray ionisation technique. Spraying techniques have since undergone further development and the original thermospray technique has been replaced by electrospray ionisation. As electrochemistry plays a significant role in the mechanism of electrospray Heitbaum's pioneering work is also well recognized in the electrospray community.

Apart from electrocatalysis and mass spectrometric techniques, Heitbaum was also active in the fields of electrochemical sensor systems and electrochemical energy storage devices such as innovative rechargeable lithium batteries. Later, in his position at Chemetall GmbH, Frankfurt, he was very active in the development of innovative industrial products for metal surface treatment, mainly to ensure corrosion protection. For this reason he initiated a scientific network with universities, research centres, industry and start-up companies.

Joachim Heitbaum received his diploma degree in Physics in 1970 and his PhD degree in 1972 under the supervision of Prof. W. Vielstich from the University of Bonn. He then stayed at the Institute of Physical and Theoretical Chemistry as a senior scientist and, after a research stay in 1976 with Prof. E. Yeager in Cleveland,

finished his habilitation in 1978 with a thesis on "Intermediates in Electrochemical Reactions". He was appointed Professor at the same institute in 1981. In 1985 he accepted a chair of Physical Chemistry at the University of Witten-Herdecke, where he was Dean of the newly founded science department from 1986 to 1989. In 1989, Prof. Heitbaum moved to a position at Metallgesellschaft AG/Chemetall GmbH, and became director in 1993. He was an outstanding leader of the global surface treatment R&D activities until his retirement in September 2005. While in industry, Prof. Heitbaum never lost his close contact with universities and his interest in the dialogue between fundamental research and industrial development. He is an active member of the German Chemical Society (GdCh) and was chairman of the Section "Angewandte Elektrochemie" (Applied Electrochemistry) from 1993 to 1998. He is active in several committees in the GdCh and in the DECHEMA (German Society for Chemical Engineering and Biotechnology), where he heads the "working group Electrochemical Processes". He was a member of the board of directors of the German Research Association for Surface Treatment (DFO) from 1994 to 2004. From 1997 to 2003 he served as a member of the "Industry Advisory Board" of the Forschungszentrum (FZ) Jülich, which he presided over for 3 years. From 1994 to 2002 he was also a member of the advisory board of the Institute of Interface and Vacuum Physics (IGV) of the FZ Jülich, acting as chair for several years. Since 2004 he has presided over the "Strukturkommission" of the Institute for Layers and Interfaces (ISG). Prof. Heitbaum was one of the founding members of the AGEF (Arbeitsgemeinschaft elektrochemischer Forschungsinstitute) and was a member of several scientific committees of international congresses.

Although now retired, Prof. Heitbaum maintains a keen ongoing interest in science and continues to be active on many committees where his scientific advice is always welcome.

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