Speaker of Session 03

HYDROGEN GENERATION AND STORAGE

Janusz Flis (Professor, Dr hab. (D. Sc.), Eng.) works at the Institute of Physical Chemistry of the Polish Academy of Sciences (PAS), Warsaw, Poland, where he was the Head of the Electrochemistry, Corrosion and Applied Surface Science Department. His research activity was associated with corrosion and protection of metals, with surface modification, electrochemical hydrogen evolution and hydrogen embrittlement of metals. Areas of corrosion research involved:

- *Surface films on corroding metals* (passivating films, inhibitors),
- *Protective coatings* (phosphate coatings, plasma alloying with N and C, Ni-P),
- *Localised corrosion* (SCC, pitting, tunnel etching of Al),
- *Hydrogen in metals*(entry into metals, diffusion, embrittlement),
- *Corrosion of steel reinforcement in concrete* (measurements on concrete structures),
- *Corrosion of steel in hot water municipal central heating system.*

His international cooperation involved the institutions: De Montfort University, Leicester; University of Birmingham; Technical Research Laboratories of Kawasaki Steel Corporation, Japan; Pennsylvania State University, USA; CNRS, Paris; UMIST, Corrosion and Protection Centre, Manchester; Rensselaer Polytechnic Institute, Troy, New York, USA; Leeds University, England.

Currently J. Flis participates in the research project on carburising nickel and steel cathodes for improving their performance in alkaline water electrolysis.