

## Third Laureate Fundamental Research

**Project Title:** Material- and coatings-based solutions for protection against high temperature corrosion in advanced technologies

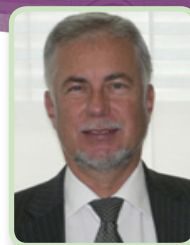
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**Country:** Germany

**Scientific Affiliation:** DECHEMA-Forschungsinstitut

**Field:** Materials & Metallurgy

**Scientific Affiliation:** DECHEMA-Forschungsinstitut



### Abstract:

The research work of the past 30 years was dealing with High Temperature Corrosion (Oxidation, Nitridation, Carburization, Metal Dusting, Sulphidation, Halogenization, Synergies). Special focus was, e.g. on the Mechanical Properties of Protective Surface Scales and Coatings as well as on the Interaction of Corrosion and Creep providing a deep understanding of the synergistic mechanisms determining high temperature corrosion under complex (industrial) conditions. The results on the fundamental understanding were used for the Development of Advanced Protective Coating Systems (Sputter Coatings, Thermal Spray Coatings, Multi-elemental Co-Diffusion Coatings, Thermal Barrier Coatings, Nano-Coatings, High Temperature Sensor Coatings). Some of these coatings were based on unique approaches that had not been used so far (e.g. catalytic poisoning of the surface against metal dusting, beneficial halogen effect etc.).

### Biography:

Prof. Michael Schütze received his Diploma as an Engineer of Materials Science from the University of Erlangen-Nürnberg in 1978, his degree of a Doctor of Engineering Sciences in 1983 and that of a private lecturer in 1991, both from RWTH Aachen University. In 1991 he became head of the High Temperature Materials Research Group at Karl-Winnacker-Institut der DECHEMA in Frankfurt and 1996 head of the entire institute. In 1998 he received the title of a professor at RWTH Aachen University. Since 2012 he is Chairman of the Executive Board of DECHEMA Research Institute in Frankfurt. His honors are: Friedrich-Wilhelm-Award of RWTH Aachen University, Elected Conference Chair of the Gordon Research Conference on Corrosion, Rahmel-Schwenk-Medal of GfKORR, Otto von Guericke-Award of AiF, Cavallaro Medal of EFC/UoF, U.R. Evans Award of ICorr, Past President World Corrosion Organization (WCO), Past President European Federation of Corrosion (EFC), editorial board member of 6 scientific journals.

