

## Resume

Name: Dr. Hans Immich

Date of Birth: 11.06.1943

**Qualification:** Doctorate on Fluid Mechanics (Dr.-Ing.), TU Munich, 1979  
Habilitation (lectureship qualification) (Dr.-Ing. habil.), TU Munich, 1985,  
Associate editor of the AIAA Journal of Propulsion and Power 1996-2004,  
Committee membership for conference organisation for AAAF, AIAA, IAF,  
Acting as session chair for AIAA, AAAF, IAF conferences since 1989

**Languages:** German, English, French

### **Experience:**

*1972 to 1979* **Technical University Munich**, Institute of Fluid Mechanics  
Assistant Professor

*1979 to 1985* **Asea Brown Boveri & Cie**, Baden (Switzerland)  
Department Head of following departments:  
"Fluid Mechanical Development of Large Steam Turbines"  
- Engineering activities of steam turbines and power plant systems  
"Development of Combustion Chambers for Large Gas Turbines"  
- Engineering activities of gas turbine combustion chambers and gas turbine power plant systems

*1985 to 2005* **EADS Space Transportation GmbH, Propulsion & Equipment**  
(formerly MBB, DaimlerChrysler Aerospace, Astrium)

*1985 to 1988* Project Systems Engineer - Propulsion Systems Engineering  
Study management of the first ESA study on the HERMES propulsion system

*1988 to 1989* Manager - Rocket Engine Design/Development  
Introduction of modern CFD methods for coolant flow and nozzle flow

*1990* Manager - Propulsion Systems Engineering  
Propulsion system engineering / system designs for ARIANE 5 upper stage  
HERMES space vehicle propulsion system  
Concept studies for future satellite / space probe propulsion systems

*1991 to Sept. 1993* Manager - Advanced Propulsion Studies  
Propulsion system designs for- ARIANE Capsule AROC  
Sänger Spacecraft Upper Stage  
ESTEC Studies WLC, CEPS, RRLD

*1993 to 2002* Manager - Propulsion Technologies and System Analysis  
Development of transpiration cooling for cryogenic rocket engines  
Manager of ESTEC Study Advanced Rocket Propulsion Technologies  
Programme Manager FESTIP Technology Study Propulsion  
Programme Manager of German National Technology Programme Cryogenic  
Rocket Engine Technology (in collaboration with DLR)  
System studies for Ariane 5 upper stage propulsion system (reignition under zero-g conditions, boil-off losses of cryogenic propellants, propellant settling maneuvers)  
Program Manager for Advanced Ceramic Matrix Composite Material  
Development for Rocket Engine Applications (2002 to 2005)

*2003 to 2005* Business Development Launcher Propulsion

*Since 2006* Senior Consultant to ET (EnergieTechnologie GmbH)

*Other Activities* Expert evaluator for the EU 7<sup>th</sup> Framework Programme for the Call  
FP7-SPACE-2007-1 and HORIZON 2020 for topics related to space technology and  
space transportation;  
Presently acting as Expert Reviewer for running EU Projects related to Space  
Transportation topics

Lecturer at the University of Applied Sciences Munich:

- Launcher Propulsion (2007 to 2018)
- Heat and Mass Transfer (since 2008)