

# Curriculum Vitae

## Study

1978-1985 Study of Mechanical Engineering at the University of Karlsruhe. Main Subjects were reciprocating and turbo machines. Degree: Dipl.-Ing., exams grade: very good (Dr.-Ing. Höfler-Award for the best design theses and very good exams results in 1985.)

## Occupational activity

1985-1988 Engineer at Robert Bosch GmbH in Buehlertal. Main task was the design and development of a light-weight vane compressor with variable displacement for automotive air-conditioners.

1988-1993 Scientific employee at the University of Kassel. Main task was the design and build-up of a Stirling engine for experimental investigations. The doctoral thesis comprises the calculation and measurement of heat transfer by convection and radiation to the heater of the engine. Degree: Dr.-Ing., exams grade: with distinction.

1993-1998 R&D engineer and since 1996 technical director at the NET-Institute (New Energy Technology, a former R&D branch office of Aisin Seiki) in Kassel. Tasks were: Comparison of halon-free systems for refrigerating machines and heat pumps, analysis of the possibilities of CO<sub>2</sub> as refrigerant, design of CO<sub>2</sub>-compressors (function models, near-prototypes), improvement of CO<sub>2</sub>-systems by using expanders, protection of the findings by patent applications, technical management of R&D-projects: latent heat storage, dehumidifier, metalhydride heat pump.

Since 1998 Professor for refrigeration engineering, reciprocating machines, automotive air-conditioning at the University of Applied Sciences THM in Giessen. Examples of research work: Refrigerating by using natural refrigerants (like CO<sub>2</sub>); low temperature cascade using Ethane, air cycle using new types of machines, improvement of vortex tube, test and improvement of small absorption refrigeration systems, two stage compression, development of small compressors, feasibility studies, investigation and development of small prime movers, building up test beds for automotive A/C, compressors and engines.

## **Further activities**

Since 1989

Expert's reports on refrigerators, fuel consumption of cars, heating systems, pressurized systems, electro-mechanical systems etc.

Feasibility studies (partly including conceptual design, dimensioning, arising prototypes and carrying out tests with own facilities) on behalf of big German companies (references on request) concerning e.g. Stirling machines (engines and refrigerators), refrigerant compressors, water steam compressors, expanders etc.

Writing software for own R&D-purposes and for clients.

Analysis and assessment of the potential of technologies, ideas, scientific findings and of scientists. These activities are done confidentially.