

# Curriculum Vitae

Dr. Helmut Rainer Schuster  
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## Personal details

Name: Helmut Rainer Schuster  
Year of birth: 1964  
Nationality: German (with permanent residence in South Africa)  
Marital state: Married  
Languages: German, English, Afrikaans

## Work experience

- 1998 – now Specialist experience in analysis, design, coding, deployment, quality assurance and maintenance of client-server, batch and internet applications in the financial service industry (Old Mutual and Metropolitan), travel booking industry and a feed-research institution as independent contractor. Since 2007 working exclusively as senior analyst/developer for Metropolitan.
- Worked in Microsoft (MS) Windows environment with Borland Delphi, MS SQL Server, MS Office and MS Visual Studio (C#). Since 2013 working in Java EE, JSF, Primefaces and IBM DataStage. Experience in user-interface design, object-oriented and multi-tiered design, SOA, COM objects, database administration, MS Office Automation, OpenXML, HTML, CSS, JavaScript, LINQ, Ajax, MS SQL Reporting Services. Experience in training and supervising junior developers.
- 2012 - 2017 Part-time senior lecturer as University of Stellenbosch for following subjects: "Legal issues for Engineers"; "Introduction to Machine Design"; Software simulation of a thermodynamic model. Examiner of Master theseses.
- 1994 – 1997 Research assistant at the Mechanical Department of the University of Stellenbosch (South Africa). The research was focused on Design for Manufacture and Assembly. During that period I was part-time employed as:
- Lecturer for design methodology and pneumatics to 2nd year students.
  - Mechanical designer of components for the University's micro-satellite (Sunsat – South Africa's first satellite).
- 1992 - 1993 Production controlling for electro-mechanical parts at Siemens Braunschweig. Main occupation in project co-ordinating.
- 1990 - 1992 Participant in trainee program for engineers at Siemens AG. Working in following departments as:
- Production engineer in Pretoria / South Africa:
  - Mechanical design engineer in Erlangen / Germany:
  - Production engineer in Braunschweig / Germany:
- 1987 - 1990 Assistant at the professorates of production automation and technical mechanics at the University of Erlangen. Main occupation in robotics, simulation and software development.

## Education

- 1994 – 1997 University of Stellenbosch (South Africa)  
Degree of Doctor of Philosophy in Mechanical Engineering  
Title of Dissertation: A Computer Aid for Specification Development, Conceptual Design and Manufacturing Cost Estimation in Mechanical Design.
- 1984 - 1990 University of Erlangen (Germany), Technical Faculty  
Degree in Production Engineering, April 1990  
Title: "Diplom-Ingenieur Universität der Fertigungstechnik"  
Focusing on technical mechanics, CAD/CAM and production automation.
- Master thesis: Development of an expert CAD program for modelling ceramic products, especially glove moulds.
- Study theses: Test and improvement of an interface program between a CAD system and a stress analysis program.  
Planning, modelling and simulation of a manual working place with the help of a CAD system.
- 1974 - 1983 Secondary school, Erlangen: Abitur  
Main subjects: Mathematics and Physics.
- 1970 - 1974 Primary school, Erlangen (Germany)

## Military service

- 1983 - 1984 Working as a mechanic repairing trucks and as shop assistant procuring spare parts.

## Publications

Schuster, H.R. and Basson A.H., *A Software "Design Assistant" for Specification Development*, Proceedings of the 1996 ASME Design Technical Conferences & Computers in Engineering, August 18-22, 1996, Irvine, California

Schuster, H.R. and Basson A.H., *Aspects of Sunsat Main Structure Design and Manufacturing*, R&D Journal, No. 2, Vol. 11, SA Inst. Mech. Eng., 1995

Van der Westhuizen, K., Basson A.H., and Schuster, H.R., *Sunsat Baseplate Design, Finite Element Analysis and Manufacturing*, R&D Journal, No. 3, Vol. 11, SA Inst. Mech. Eng., 1995