

# Dr. Gerhard Klimeck

Purdue University, School of Electrical and Computer Engineering  
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## OBJECTIVE

Provide leadership to the Network for Computational Nanotechnology (NCN) Director and conduct nanoelectronic research, high performance computing, and software engineering.

## EDUCATION

**Ph.D., Electrical Engineering**, Purdue University, GPA: 4.00/4.00 1994

Thesis: Electron-Electron and Electron-Phonon Interactions in Quantum Transport.

Advisor: Professor Supriyo Datta

**Dipl. Ing., Electrical Engineering**, Ruhr University Bochum, Germany (equiv. M.S.E.E.) 1990

GPA: 5.97/6.00 (converted from German system), Class Rank 2/167

Thesis: Laser Noise Induced Intensity Fluctuations in an Optical Interferometer.

Advisor: Professor Daniel S. Elliott, Purdue.

Engineering Co-op program with Thyssen Mechanical Engineering, RWE, and Siemens AG.

## EMPLOYMENT

**Purdue University**, School of Electrical and Computer Engineering

Professor, Director Network for Computational Nanotechnology 05/09-present

Professor, Network for Computational Nanotechnology Associate Director for Technology 12/03-04/09

- Transformation of www.nanoHUB.org - now recognized as NSF science gateways flagship
  - Growth from 1,000 annual users in 2003 to over 90,000 users (as of Jan 2009)
  - Introduction of fully interactive simulations, >7,300 annual users >394,000 simulations
- Lead the development of NEMO 3-D and OMEN towards peta-scale computing applications. Demonstrated scaling to 147,000 processors – enabled multimillion atom electronic structure calculations and atomistic non-equilibrium Green Function treatments of transistors.
- Lead ~15 professional nanoHUB staff members and ~20 researchers in nanoelectronics.

**NASA Jet Propulsion Laboratory, California Institute of Technology**

Principal Member of Technical Staff (academic part time since 12/03) 9/01-present

Technical Group Supervisor, Applied Cluster Computing Technology Group 4/02-12/03

Senior Member of Technical Staff, High Performance Computing Group 2/98-9/01

- Development of an atomistic nanoelectronic modeling and simulation tool, a genetic algorithm based optimization and synthesis tool, Parallelization of Mars imaging software

**Texas Instruments Incorporated**, Corporate Research and Development 9/95-2/98

(transitioned to **Raytheon TI Systems**, Applied Research Laboratories 8/97).

Member of Technical Staff - Nanoelectronics Research Group

- Development and project management of the Nanoelectronic Modeling software (NEMO) (theory, algorithms, user-interface, implementation, verification, documentation and delivery)

**University of Texas at Dallas**, School of Engineering

Post-doctoral Research Associate - Supervisor: Professor William R. Frensley 2/94-9/95

- Prototype development of NEMO. Consultant to Texas Instruments,

Lecturer. Teaching “Advanced Semiconductor Device Theory”, graduate level course 5/97-8/97

**Purdue University**, School of Engineering 9/90-1/94

Research Assistant - Supervisor: Professor Supriyo Datta

**Ruhr-University Bochum**, EE, Research Assistant - Supervisor: Professor Eckhard Kneller 2/88-8/88

## SELECTED HONORS

- Awarded Proposal Author as PI and lead Co-PI exceeding \$68,3M – including 5 center level grants.
- Co/Author of 125 journal, 121 proceedings, 125 inv. conf., 271 contr. conf., 215 sem./review, 33 Reports
- JPL Dr. Edward Stone Award for Outstanding Research Publication 2002.
- 12 NASA software, NASA board, NASA Space Act, and NASA Tech Brief Awards
- Two US Patents 6,490,193 and 6,667,490, memory cells in RTDs.
- Texas Instruments Award for timely delivery of the Phase II NEMO software.
- DARPA Award to Raytheon-TI Systems: Sustained Excellence by a Performer in FY97.
- Scholarships: Purdue Fee Remission Award, National Science Foundation of Germany.
- Member of ηκν EE Honor Society, τβπ Engineering Honor Society, IEEE (senior) and APS.
- Tae Kwon Do 2<sup>nd</sup> degree black belt.