

Dr. Gerhard Klimeck

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OBJECTIVE

Direct nanoHUB.org and the Center for Predictive Materials and Devices, and conduct nanoelectronic research, high performance computing, and software engineering.

EDUCATION

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

Theoretical 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

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

Advisor: Professor Daniel S. Elliott, Purdue (work conducted as an exchange student at Purdue).

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

APPOINTMENTS

Purdue University, Elmore Family School of Electrical and Computer Engineering

Elmore Chaired Professor, 12/22-present

Reilly Director of the Center for Predictive Materials and Devices (c-PRIMED) 10/13-present

Professor, Director Network for Computational Nanotechnology (NCN) 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 500 annual users in 2003 to over 2,000,000 users (as of Dec. 2022)
 - Introduced fully interactive simulations, >22,000 annual users >1,000,000 simulations
 - Lead the analytics work to demonstrate nanoHUB impact in classrooms and research
 - Created a new type of publications now listed in Web of Science and Google Scholar: nanoHUB Scientific Apps used in teaching and duplication of research results.
- Lead the development of NEMO 3-D, OMEN, and NEMO5 development for atomistic, non-equilibrium quantum transport modeling of realistically scaled transistors and quantum dots. Demonstrated critical physics in Si-based transistors and explored alternatives in many other materials systems. Lead model development for quantum computing in Silicon. NEMO5 is now used at Intel to design transistors and commercialized through SILVACO.
- Lead ~15 professional nanoHUB staff members and up to 35 researchers in nanoelectronics.

NASA Jet Propulsion Laboratory, California Institute of Technology

Senior (02/98-9/01), Principal Member (9/01-6/15) of Technical Staff (academic part time 12/03 until 06/15)

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

- Development of an atomistic nanoelectronic modeling and simulation tool NEMO3D, a genetic algorithm 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,

SELECTED HONORS

- Fellow of IEEE, of the Institute of Physics (IOP), the American Physical Society (APS), Alexander von Humboldt Foundation, American Association for the Advancement of Science (AAAS)
- Awarded Proposal Author as PI and lead Co-PI exceeding \$116.3M – including 7 center level grants.
- Co/Author of 305 journal, 239 proceedings, 284 invited conferences, 520 contributed conferences
- h-index in Web of Science: 59, Scopus: 60, Google Scholar: 72
- Graduated 43 PhD and 16 Master Students, Supervised: 15 post docs, 5 research faculty, 59 undergraduates.
- 6 US Patents, 12 NASA software, NASA board, NASA Space Act, and NASA Tech Brief Awards