

Research Expertise

Electronic Design Automation (EDA, CAD for VLSI); Physical Design of Integrated Circuits, Multi-Chip Modules and Printed Circuits Boards; Algorithms for VLSI Physical Design; VLSI Verification; Electromigration; Place and Route Algorithms; Interconnect-centric Design Methodologies; Genetic Algorithms Applied to VLSI Physical Design; Microelectromechanical Systems (MEMS), Sensor Devices.

Teaching Expertise

VLSI and Microelectronics; Electronic Design Automation (CAD for VLSI); Design of Microelectronic Systems; Electronic Packaging; VLSI Physical Design and Verification; Introductory Algorithms; Algorithms for VLSI Physical Design; Software Design; C/C++ Programming.

Education

Post-doc	Dresden University of Technology , Germany Evolutionary Algorithms Applied to VLSI Physical Design (<i>Habilitation</i>)	1996
Ph.D.	Routing Strategies for the Computer-Aided Physical Design of Multi-Chip Modules <i>Magna Cum Laude</i>	1991
M.S.	Computer-Aided Routing in Channel Structures of Special Hybrid Circuits <i>Excellent (With Distinction)</i>	1988

Teaching Experience

Dresden University of Technology, Dresden, Germany 2002 - present
Full Professor and Director, Institute of Electromechanical and Electronic Design

- Current research topics: Electronic design automation (Constraint-driven design methodologies), VLSI verification (Electromigration issues in VLSI and MCM layout), New design methodologies for nanostructures (3D design and modeling, thermal-driven design).
- Teaching assignments: Electronic Systems Design, Physical Design and Physical Design Automation, Algorithms for VLSI Physical Design Automation.

University of Virginia, Charlottesville, USA 1994 - 1996
Visiting Assistant Professor

- Research on physical design algorithms of integrated circuits, multi-chip modules and PCBs.
- Software development of parallel (genetic) algorithms for routing in VLSI circuits using a distributed network of workstations.

Concordia University, Montreal, Canada 1991 - 1994
Postdoctoral Fellow

- Development of genetic algorithms for the physical design of VLSI circuits.
- Project contributions to "Inter-University Research Centre in High Performance Computer Architecture and VLSI".

Industry Experience

Robert Bosch GmbH, Reutlingen, Germany 1999 - 2002
CAD Tool Manager, Design of Integrated Circuits Division

- EDA tool support, IC design flow and technology implementation.

Tanner Research, Inc., Pasadena, USA 1996 - 1999
Project Manager and Lead Developer L-Edit/SPR (Standard Cell Place and Route)

- Algorithm and software development of standard cell place and route module.
- Interface development (EDIF, SDF), implementation of placement and routing engines, tool maintenance and customer support.

Publications

Please refer to <http://www.ifte.de/mitarbeiter/lienig/publications.html>

Awards

- Senior Member of the IEEE 2010.
- "Best Poster Award" at ANALOG 2008.
- Nominee for "Best Paper Award" at ASP-DAC 2003.
- Awarded two academic excellence scholarships (1991-94, 1994-96) from the German Science Foundation.
- Selected out of 400 graduates as Master's valedictorian based on academic marks and master's thesis.

Memberships and Professional Activities (Selection)

- IEEE, Circuits and Systems Society (CAS)
- ACM, SIG Electronic Design Automation (SIGDA)
- DATE Conference: University Booth Co-Chair, Technical Program Committee Co-Chair "Physical Design and Verification"
- ISPD, SLIP: Program Committee Member
- Reviewer for *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, *Design Automation and Test in Europe Conference (DATE)*, *Design Automation Conference (DAC)*, *International Conference on VLSI Design*, and others.
- Adjunct professor, Concordia University, Montreal, Canada (6/2005 - 6/2008)

Languages

Fluent in German and English. Beginning French.

References

Available upon request.