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# Jens Lienig, Ph.D.

+49-351-463-34742 (W)  
jens.lienig (at) ifte.de

**Full Professor and Director of the Institute of Electromechanical  
and Electronic Design (IFTE) at TU Dresden**

[www.ifte.de/english/staff/lienig.html](http://www.ifte.de/english/staff/lienig.html)

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## 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

Electronic Design Automation (EDA/CAD for VLSI); Electronic Systems Design; VLSI Physical Design and Verification; Algorithms for VLSI Physical Design; Software Design.

## Education

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

## Teaching Experience

**Dresden University of Technology (TU Dresden)**, Dresden, Germany 2002 - present  
Full Professor and Director of the Institute of Electromechanical and Electronic Design (IFTE)

- Current research topics: Electronic design automation, EDA (Novel design methodologies), VLSI verification (Electromigration avoidance in VLSI layout design), 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

Eight textbooks, all published by Springer. More than 100 papers.  
Please refer to <https://www.ifte.de/mitarbeiter/lienig/publications.html>

## Awards (Selection)

- "Best Paper Award", Sixth International Conference on Advances in Sensors, Actuators, Metering and Sensing, ALLSENSORS 2021, Nice, France.
- Certificate of Appreciation "Embedded Tutorial Organizer", ICCAD, 2018, San Diego, CA, USA.
- 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.

## Professional Activities and Memberships (Selection)

- International Symposium on Physical Design (ISPD): General Chair of ISPD 2021, Steering Committee Chair 2022 & Member (ongoing), Program Committee Member
- Design, Automation and Test in Europe (DATE) Conference: University Booth Co-Chair, Technical Program Committee Co-Chair "Physical Design and Verification"
- Senior Member IEEE, Circuits and Systems Society (CAS)
- 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.