

# Curriculum Vitae

## Personal Information

Name **Josef WEINBUB**  
Academic Degrees Dipl.-Ing. Dr.techn. BSc  
Role Group leader  
Affiliation Christian Doppler Laboratory for High Performance TCAD  
Institute for Microelectronics, TU Wien  
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Institute Webpage <http://www.iue.tuwien.ac.at/>  
Group Webpage <http://www.iue.tuwien.ac.at/hptcad/>  
Personal Webpage <http://www.josefweinbub.net/>  
Nationality Austrian  
Date of Birth December 19, 1982



## Positions

since 10/2018 University assistant (tenure track), [Institute for Microelectronics](#), TU Wien  
1/2016-9/2018 Senior scientist, [Institute for Microelectronics](#), TU Wien  
3/2018-5/2018 Visiting researcher, [Silvaco, Inc.](#), Santa Clara, CA, USA  
3/2014-12/2015 Postdoctoral researcher, [Institute for Microelectronics](#), TU Wien  
10/2012-11/2012 Visiting researcher, [Device Modelling Group](#), University of Glasgow & [EPCC](#), University of Edinburgh, Scotland, UK  
1/2010-2/2014 Research assistant, [Institute for Microelectronics](#), TU Wien

## Awards

2016 Collaborative Science Program, US Office of Naval Research Global, London, UK  
2016 Innovative Projects–Personnel, TU Wien  
2015 Science Recognition Award of the Federal State of Lower Austria, St.Pölten, Austria  
2015 NVIDIA GPU Research Center (Co-recipient), TU Wien  
2015 Christian Doppler Laboratory, Christian Doppler Research Association, Vienna, Austria  
2012 HPC-Europa2 Fellowship, Edinburgh, Scotland, UK  
2012 Best Paper Award, IAENG World Congress on Engineering, London, England, UK

## Education

2/2010-2/2014 Doctoral studies: Technical Sciences, graduated with distinction  
Field of research: Computational Microelectronics  
PhD thesis: [Frameworks for Micro- and Nanoelectronics Device Simulation](#)  
Supervisor: [Prof. Siegfried Selberherr](#)  
External reviewer: [Prof. Asen Asenov](#) (University of Glasgow, Scotland, UK)  
TU Wien  
2/2009-10/2009 Graduate studies: Microelectronics  
Master's thesis: [Adaptive Mesh Generation](#)  
TU Wien  
10/2002-2/2009 Undergraduate studies: Electrical Engineering and Information Technology  
Bachelor's thesis: [Multi-Paradigm Programming for Scientific Computing with GSSE](#)  
TU Wien

## Project Leader- and Partnerships

- since 5/2017 Partner of *TU Wien Innovative Project - Infrastructure: Ensuring Quality in Interfaces for Parallel and High-Performance Computing (EQUIP)*  
Principal investigator: [Prof. Jesper Träff](#)  
Funding for specialized high performance computing cluster
- since 1/2016 **Principal investigator** of *TU Wien Innovative Project - Personnel: Parallel 3D Mesh Generation for Bio-Micro- & Nanoelectromechanical Systems*  
Funding for 1 doctoral student
- since 8/2015 **Principal investigator** of the [Christian Doppler Laboratory for High Performance TCAD](#)  
Partner company: [Silvaco, Inc.](#)  
Funding for 9 doctoral students
- since 2/2015 Co-principal investigator of the [VSC School](#) research project: *ViennaCL*  
Funding for 1 doctoral student
- 12/2016-10/2017 **Principal investigator** of the US Office of Naval Research Global CSP project: *International Wigner Workshop 2017*  
Funding for travel support for invited speakers
- 7/2015-7/2016 Co-principal investigator of the *NVIDIA GPU Research Center at the TU Wien*  
Hardware donations

## Additional Experiences

- since 10/2018 Chair of the curriculum commission of the to-be-founded master's program  
Computational Science and Engineering  
TU Wien
- since 12/2016 Member of the [IDC Technical Computing Advisory Panel](#)  
HPC User Forum, IDC, St. Paul, Minneapolis, USA
- since 10/2016 [Substitute member of the senate](#)  
TU Wien
- since 12/2014 Co-initiator and steering committee member  
[Wigner Initiative](#)
- 3/2016-9/2018 Initiator and chair of the initiative to introduce the new master's program  
Computational Science and Engineering  
TU Wien
- 2016 PhD committee member (Opponent) of [Václav Hapla](#)  
IT4Innovations, VSB-Technical University of Ostrava, Ostrava, Czech Republic
- 2015 Guest editor  
[Journal of Computational Electronics](#)  
Special Issue on Wigner Functions
- 2014-2015 Co-founder, organizer of the *luE Summer of Code*  
(Co-)Supervision of 16 summer intern students  
TU Wien
- 2011-2014, 2016 Co-founder, (deputy) head, and mentor of the *Google Summer of Code* organization  
[Computational Science and Engineering at TU Wien](#)  
Supervision of 30+ researchers, 10+ software projects, and 52 summer intern students  
TU Wien

## Conference Activities

- since 2018 [International Workshop on Computational Nanotechnology \(IWCN\)](#)  
Co-organizer and communications chair (2019)
- since 2018 [Workshop on High Performance TCAD \(WHPTCAD\)](#)  
Organizer (2019)
- since 2017 [Workshop on Innovative Nanoscale Devices and Systems \(WINDS\)](#)  
General chair (2018)  
Europe co-chair (2017)

since 2016	<a href="#">SIAM Conference on Computational Science and Engineering (CSE)</a> Co-organizer Minisymp. Computational and Numerical Methods in Electronics (2019) Co-organizer Minisymp. Computational and Numerical Methods in Electronics (2017)
since 2016	<a href="#">International Conference on Computational Science (ICCS)</a> Program committee member
since 2015	<a href="#">International Wigner Workshop (IW2)</a> Co-chair and program committee chair (2015,2017,2019) Co-founder (2015)
since 2014	<a href="#">High Performance Computing Symposium (HPC)</a> Steering committee member (2019) Program vice-chair (2017-2018) General chair (2016) General vice-chair (2015) Program committee member (2014)
2017	<a href="#">IEEE International Parallel &amp; Distributed Processing Symposium (IPDPS)</a> Program committee member
2016	<a href="#">IEEE International Conference on Computational Science and Engineering (CSE)</a> Program committee member
2015	<a href="#">Large-Scale Scientific Computations (LSSC)</a> Co-organizer Workshop on Computational Microelectronics

### Journal Reviewer

[Journal of Computational Physics](#), [ACM Transactions on Mathematical Software](#), [AIP Advances](#), [Micromachines](#), [Open Physics](#), [Computers and Mathematics with Applications](#), [Physica A: Statistical Mechanics and its Applications](#), [Mathematics and Computers in Simulations](#), [Applied Mathematics and Computation](#), [Journal of Mechanical Engineering Science](#)

### Teaching at TU Wien

since 10/2018	<i>Methods of Calculating in Quantum Electronics (LU 360.229)</i>
since 10/2018	<i>Selected Topics-Numerical Aspects for the Simulation of Micro-Structures (VU 360.222)</i>
since 10/2018	<i>Programming 1 (VU 360.016)</i>
since 10/2018	<i>Programming 2 (VU 360.017)</i>
since 10/2018	<i>Programming (PR 360.206)</i>
since 10/2018	<i>EDP-Oriented Project (AG 360.130)</i>
since 2/2017	<i>Operating Systems and Software Engineering (SE 360.037)</i>
since 2/2017	<i>Software Engineering Seminar (SE 360.236)</i>
10/2017-6/2018	<i>Emerging Devices (SE 360.230)</i>

### Additional Involvement in Research Projects

since 10/2016	<i>Collaborator, <a href="#">Stability Under Process Variability for Advanced Interconnects and Devices Beyond 7 nm node</a></i> European Commission (EC), <i>Horizon 2020-ICT</i>
since 7/2016	<i>Co-author, advisor, and collaborator, <a href="#">Wigner State Control for Entangled Electronics</a></i> Austrian Science Fund (FWF), <i>Stand-alone project</i>
7/2015-6/2016	<i>Collaborator, <a href="#">Centre of Excellence for Mathematical Modeling and Advanced Computing</a></i> European Commission (EC), <i>Horizon 2020-Widespread-Teaming</i>
3/2014-6/2015	<i>Collaborator, <a href="#">Void Evolution due to Electromigration</a></i> Austrian Science Fund (FWF), <i>Stand-alone project</i>
1/2012-6/2014	<i>Advisor, <a href="#">Wigner-Boltzmann Particle Simulations</a></i> Austrian Science Fund (FWF), <i>Stand-alone project</i>
3/2010-2/2014	<i>Collaborator, <a href="#">Modeling Silicon Spintronics</a></i> European Research Council (ERC), <i>Advanced grant</i>

1/2009-2/2010

*Collaborator, [Mesh Generation, Error Estimation, and Adaptation](#)  
Austrian Science Fund (FWF), *Stand-alone project**

### **Science Communication Efforts**

since 2016

[Lange Nacht der Forschung](#) – Institute for Microelectronics Booth Organizer (2016, 2018)

2016

European Researchers' Night – Institute for Microelectronics Booth Organizer

2016

[Radio NJOY](#) (in German)  
Interview

### **Professional Memberships**

since 1/2013

*Professional member, Institute of Electrical and Electronics Engineers (IEEE)  
Member of Computer Society, Electron Devices Society, and  
Rebooting Computing Initiative*

### **Supervisions**

current

Supervising 1 postdoctoral researcher and 5 doctoral, 1 master's, and 2 bachelor's students

past

(Co-)supervised 6 doctoral, 4 master's, and 3 bachelor's students as well as 16 interns

## **Publications**

Please visit <http://www.iue.tuwien.ac.at/publications/weinbub/> for the verified list of publications.