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Professional Experience

- since 01/2018 **Full Professor**
Institute for Mathematics and Computer-Based Simulation,
University of the Bundeswehr Munich (UniBw M),
Head of the *Computer-Based Simulation Group* within the
Department of Civil Engineering and Environmental Sciences
- since 04/2014 **Technology Consultant (part-time)**
AdCo Engineering^{GW} GmbH, Garching,
Consulting activities and research and development for a startup
company in computational mechanics and engineering
- 09/2017 – 10/2017 **Visiting Professor**
Research group MUSAM (Head: Prof. M. Paggi)
IMT School for Advanced Studies Lucca, Italy
- 08/2017 – 12/2017 **TUM Junior Fellow and Research Group Leader**
Department of Mechanical Engineering, Technical University of
Munich (TUM) and Center Digitization.Bavaria (ZD.B)
- 03/2017 – 06/2017 **Visiting Associate Research Scientist**
Department of Civil Engineering (Head: Prof. G. Deodatis),
Columbia University in the City of New York, U.S.A.
- 10/2015 – 08/2017 **Deputy Head of Institute and Lecturer**
Institute for Computational Mechanics (Head: Prof. W. Wall), TUM,
Research group on *Contact and Structural Mechanics*,
Independent supervision of 6 doctoral candidates
- 03/2015 – 10/2015 **Visiting Research Fellow**
Institute of Industrial Science (Head: Prof. M. Oshima),
The University of Tokyo, Japan
- 09/2012 – 03/2015 **Senior Research Associate and Lecturer**
Institute for Computational Mechanics, TUM
- 10/2007 – 09/2012 **Research Associate**
Institute for Computational Mechanics, TUM

Curriculum Vitae

Education

- 09/2012 **Ph.D. Mechanical Engineering (Dr.-Ing.), TUM**
Doctoral thesis: "Mortar methods for computational contact mechanics and general interface problems",
Passed with high distinction (*summa cum laude*),
Examination committee: Prof. K. Drechsler (chairman),
Prof. W.A. Wall, Prof. M.W. Gee, Prof. T.A. Laursen (examiners)
- 09/2007 **Diploma Mechanical Engineering (Dipl.-Ing. Univ.), TUM**
Specialization in lightweight structures and product development,
Passed with high distinction (*summa cum laude*), GPA 1.0
- 08/2006 – 12/2006 **LAOTSE Postgraduate Scholarship, HKUST**
Postgraduate engineering studies at the Hong Kong University of Science and Technology (HKUST), People's Republic of China
- 10/2004 **Intermediate Examination Mechanical Engineering, TUM**
Passed with high distinction (*summa cum laude*), GPA 1.2,
Ranked no. 1 out of 461 examinees
- 06/2001 **High School Diploma (Abitur), Adalbert-Stifter-Gymnasium Passau**
Passed with high distinction (*summa cum laude*), GPA 1.0

Work Experience

- 07/2005 – 10/2005 BMW Group, Munich, *internship*
- 02/2004 – 03/2004 eug GmbH, Garching, *internship*
- 07/2002 – 08/2002 ZF Passau GmbH, Passau, *internship*
- 09/2001 – 06/2002 Passau Clinical Center, Passau, *civilian service*

Honors and Awards

- 07/2018 **Teaching Award** within the annual teaching evaluation of the Munich School of Engineering, TUM
- 06/2018 **O.C. Zienkiewicz Young Investigator Award** in Computational Engineering Sciences of the European Community on Computational Methods in Applied Sciences (ECCOMAS) (Biannual award for one researcher under 40 from across Europe)
- 07/2017 Junior Research Group of the **Center Digitization.Bavaria (ZD.B)** (Only 7 out of 82 applicants were selected for this program)
- 06/2016 Elected as chairman of the European **Young Investigators Committee** of ECCOMAS
- 02/2016 Fellowship (24 months) of the **Daimler and Benz Foundation** (Only 12 out of 200 applicants were selected for this program)
- 04/2010 & 07/2015 **Teaching Awards** within the annual teaching evaluation of the Department of Mechanical Engineering, TUM
- 03/2015 Postdoctoral Fellowship (6 months) of the **German Academic Exchange Service (DAAD)**

Curriculum Vitae

- 02/2015 Postdoctoral Fellowship (36 months) of the European Commission in the **Marie-Sklodowska-Curie Program (MSCA-GF)** – *declined*
- 08/2014 Postdoctoral Fellowship (24 months) of the **Japanese Society for the Promotion of Science (JSPS)** – *declined*
- 12/2005 – 09/2007 Scholarship of the **TUM Mentoring Program**
(Only 150 out of 20,000 students were supported in this program)
- 10/2005 – 09/2007 Full scholarship of the **German National Academic Foundation**
(Less than 1% of all students were granted this scholarship)
- 07/2005 **Rudolf Diesel Award** of TUM and AMIV e.V.
(Awarded for an excellent student paper in engineering)
- 10/2002 – 09/2005 Full scholarship of the **Bavarian State Government**
(Less than 1% of all students were granted this scholarship)
- 06/2001 **Best Diploma Award** of the City of Passau
(Awarded for the best high school diploma in 2001)

Professional Service

- 06/2016 – **Chairman**
Young Investigators Committee of the European Community for Computational Methods in Applied Sciences (ECCOMAS)
- 06/2013 – 12/2016 **Secretary General**
German Association for Computational Mechanics (GACM)
- 02/2013 – **Mentor for Ph.D. students**
TUM Graduate School and International Graduate School of Science and Engineering (IGSSE)
- 09/2011 – 11/2011 **Ph.D. Student Representative**
Evaluation of TUM within the Excellence Initiative by the German federal and state governments
- 07/2010 – **Scientific Referee**
Peer-review service for more than 20 of the leading international journals and funding agencies in engineering science
- 02/2008 – 10/2010 **Project Manager**
Development of the integrative research center *Munich School of Engineering* for interdisciplinary research and cross-faculty teaching at TUM and the new bilingual B.Sc. program *Engineering Science*

Institutional Responsibilities

- 10/2018 – **Member**
Faculty Search Committee “Traffic Psychology”, Department of Civil Engineering and Environmental Sciences, UniBw M
- 10/2018 – **Counselor**
M.Sc. Program “Mathematical Engineering”, Department of Civil Engineering and Environmental Sciences, UniBw M

Curriculum Vitae

- 10/2018 – **Member**
Faculty Committee, Department of Civil Engineering and Environmental Sciences, UniBw M
- 07/2018 – **Chairman**
University Committee, Modern Technologies for Future Lecture and Seminar Rooms, UniBw M
- 01/2018 – **Member**
Faculty Search Committee “Structural Mechanics”, Department of Civil Engineering and Environmental Sciences, UniBw M

Further Information

- Languages German (first language)
English (level C2), French (level B2), Japanese (level A1)
- Memberships Gesellschaft für Angewandte Mathematik und Mechanik (GAMM),
German Association for Computational Mechanics (GACM),
International Association for Computational Mechanics (IACM),
European Mechanics Society (EUROMECH),
Verein Deutscher Ingenieure (VDI),
Deutscher Hochschulverband (DHV)

Teaching Experience

- *Statistics*, lecture
Department of Civil Engineering and Environmental Sciences, UniBw M
winter term 2019
- *Computer-Based Simulation in Contact Mechanics*, lecture
Department of Civil Engineering and Environmental Sciences, UniBw M
fall term 2018
- *Introduction to Programming*, lecture
Department of Civil Engineering and Environmental Sciences, UniBw M
fall term 2018
- *Nonlinear Finite Element Methods*, lecture
Department of Civil Engineering and Environmental Sciences, UniBw M
spring term 2019
spring term 2018
- *Advanced Chapters in Numerics*, lecture
Department of Civil Engineering and Environmental Sciences, UniBw M
spring term 2019
spring term 2018
- *Introduction to Finite Element Methods*, lecture
Department of Civil Engineering and Environmental Sciences, UniBw M
winter term 2018
winter term 2019
- *Computational Contact and Interface Mechanics*, lecture
Department of Mechanical Engineering, TUM
winter term 2017/18
winter term 2016/17
- *Geometrically Nonlinear and Contact Analysis*, lecture
TH Ingolstadt and HAW Landshut
winter term 2018/19
winter term 2017/18
winter term 2016/17
- *Computational Solid and Fluid Dynamics*, lecture
Munich School of Engineering, TUM
winter term 2017/18
winter term 2016/17
winter term 2012/13
- *Nonlinear Finite Element Methods*, lecture
Department of Mechanical Engineering, TUM
summer term 2016
summer term 2014
summer term 2013
- *Virtual Worlds*, advanced training for high school teachers
Department of Mechanical Engineering, TUM
summer term 2016
summer term 2013

Teaching

- *Nonlinear Continuum Mechanics*, lecture
Department of Mechanical Engineering, TUM
winter term 2015/16
winter term 2014/15
winter term 2013/14
- *Engineering Mechanics 1-3: Statics, Elastostatics and Dynamics*, lecture
Department of Mechanical Engineering, TUM
winter term 2013/14 – selected chapters (with W.A. Wall)
summer term 2013 – selected chapters (with W.A. Wall)
winter term 2012/13 – selected chapters (with W.A. Wall)
- *Computational Mechanics Summer School*, invited lectures
COMMAS Program, University of Stuttgart
summer term 2012
- *Engineering Mechanics 1-2: Statics and Elastostatics*, exercises and tutorials
Department of Mechanical Engineering, TUM
summer term 2009
winter term 2008/09

Evaluation Results

- *Computational Contact and Interface Mechanics*
winter term 2017/18 grade: 1.3 (average: 2.3)
winter term 2016/17 grade: 1.5 (average: 2.0)
- *Geometrically Nonlinear and Contact Analysis*
winter term 2017/18 grade: 1.3
winter term 2016/17 grade: 1.4
- *Computational Solid and Fluid Dynamics*
winter term 2017/18 – award “Top Teaching Trophy” grade: 1.2 (average: 2.0)
winter term 2016/17 grade: 1.2 (average: 2.0)
winter term 2012/13 grade: 1.5 (average: 2.1)
- *Nonlinear Finite Element Methods*
summer term 2016 grade: 1.6 (average: 2.1)
summer term 2014 grade: 1.6 (average: 2.0)
summer term 2013 grade: 1.6 (average: 2.1)
- *Nonlinear Continuum Mechanics*
winter term 2015/16 grade: 1.5 (average: 2.2)
winter term 2014/15 – award “Goldene Lehre” grade: 1.5 (average: 2.1)
winter term 2013/14 grade: 2.0 (average: 2.1)
- *Engineering Mechanics 2: Elastostatics*
summer term 2009 – award “Goldene Lehre” grade: 1.3 (average: 1.6)
- *Engineering Mechanics 1: Statics*
winter term 2008/09 grade: 1.3 (average: 1.7)

Teaching Certification

- Teaching in Higher Education of the Bavarian Universities (“Zertifikat Hochschullehre”)
Basic and advanced certificates, 120 working units, TUM, 2016

Teaching

Supervised Ph.D. Students (independent supervision)

- *An immersed FEM approach to fluid-structure interaction of slender beams*
(Nora Hagemeyer, Computer-Based Simulation Group, UniBw M, since 2018)
- *Nonlinear finite element formulations for beam-to-solid contact interaction*
(Ivo Steinbrecher, Computer-Based Simulation Group, UniBw M, since 2018)

Supervised Ph.D. Students (accountable supervision)

- *A novel smooth discretization approach for elasto-plastic contact*
(Alexander Seitz, Institute for Computational Mechanics, TUM, 2013-2019)
together with W.A. Wall
- *Robust nonlinear solution techniques for computational contact mechanics*
(Michael Hiermeier, Institute for Computational Mechanics, TUM, 2013-2019)
together with W.A. Wall
- *Hydroplaning of car tires on rough road surfaces*
(Julien Gillard, in collaboration with Goodyear S.A., 2012-2018)
together with W.A. Wall
- *Elastohydrodynamic lubrication and fluid-structure-contact interaction*
(Andy Wirtz, Institute for Computational Mechanics, TUM, 2012-2017)
together with W.A. Wall
- *Complex interface modeling including friction, wear and thermomechanics*
(Philipp Farah, Institute for Computational Mechanics, TUM, 2013-2017)
together with W.A. Wall
- *Geometrically exact finite elements for slender beams and beam-to-beam contact*
(Christoph Meier, Institute for Computational Mechanics, TUM, 2012-2016)
together with W.A. Wall

Mentoring of Ph.D. Students in TUM Graduate School

- Dong Li, Institute of Applied Mechanics, TUM, since 2017
- Michael Häußler, Institute of Applied Mechanics, TUM, since 2015
- Anna Birzle, Institute for Computational Mechanics, TUM, since 2015
- Maximilian Grill, Institute for Computational Mechanics, TUM, since 2014
- Christoph Ager, Institute for Computational Mechanics, TUM, since 2014
- Dhruvajyoti Mukherjee, Institute for Computational Mechanics, TUM, 2014-2017
- Andy Wirtz, Institute for Computational Mechanics, TUM, 2014-2017
- Julien Gillard, Goodyear S.A., 2013-2018

External Examiner / Reviewer of Ph.D. Dissertations

- Basava Raju Akula, MINES ParisTech – Université PSL, France, 2019
- Paolo Cinat, IMT School for Advanced Studies Lucca, Italy, 2018

Supervised B.Sc. Students and M.Sc. Students

- *Estimation of critical time step sizes in explicit dynamics*
(Christoph Ritzert, Computer-Based Simulation Group, UniBw M, 2019)
- *Finite element modeling of beam-to-solid contact interaction*
(Viet Anh Dao, Computer-Based Simulation Group, UniBw M, 2019)
- *Beam-to-solid contact modeling for the stent graft / arterial wall contact*
(Florian Kammerstetter, Munich School of Engineering, TUM, 2017)
- *Bottom-up modeling of AAA stent grafts for endovascular repair*
(Johannes Kremheller, Institute for Computational Mechanics, TUM, 2016)
- *Reduced modeling of AAA stent grafts for endovascular repair*
(Sebastian Büchner, in collaboration with University of Tokyo, Japan, 2016)
- *Mortar mesh tying of ALE and fluid fields with partial sliding*
(Michael Häußler, Institute for Computational Mechanics, TUM, 2015)
- *Modeling of deformable crash barriers for lumped mass models*
(Michael Pabst, in collaboration with IDIADA GmbH and BMW Group, 2014)
- *Contact between beams and rigid bodies / elastic solid bodies*
(Michael Hofer, Institute for Computational Mechanics, TUM, 2014)
- *Particle contact simulations with the discrete element method*
(Niklas Fehn, Institute for Computational Mechanics, TUM, 2013)
- *Finite-strain elastoplasticity and contact*
(Alexander Seitz, Institute for Computational Mechanics, TUM, 2013)
- *Simulating the interaction of pantograph and catenary*
(Fabian Sewerin, in collaboration with Bombardier Transportation GmbH, 2013)
- *Numerical integration for 3D mortar contact formulations*
(Philipp Farah, Institute for Computational Mechanics, TUM, 2012)
- *Energy conservation for mortar contact formulations*
(Andy Wirtz, Institute for Computational Mechanics, TUM, 2012)
- *Explicit time integration schemes for contact problems*
(Roman Feger, Institute for Computational Mechanics, TUM, 2011)
- *Crash modeling concepts for passenger cars*
(Thomas Knyrim, in collaboration with BMW Group, 2011)
- *Consistent dual Lagrange multipliers for 3D mortar contact*
(Alexander Seitz, Institute for Computational Mechanics, TUM, 2011)
- *Consistent dual Lagrange multipliers for 2D mortar contact*
(Sebastian Zenz, Institute for Computational Mechanics, TUM, 2011)
- *Different sliding laws on embedded interfaces*
(Matthias Mayr, in collaboration with Duke University, USA, 2010)
- *Momentum conservation for mortar contact formulations*
(Fabian Sewerin, Institute for Computational Mechanics, TUM, 2010)
- *Nonlinear 3D contact formulations for beam structures*
(Matthias Mayr, Institute for Computational Mechanics, TUM, 2009)

Teaching

- *Search algorithms for the finite element simulation of self-contact*
(Anh-Tu Vuong, Institute for Computational Mechanics, TUM, 2009)
- *Mortar contact formulations with penalty regularization*
(Bernd Budich, Institute for Computational Mechanics, TUM, 2009)
- *Efficient 3D contact search algorithms*
(Thomas Eberl, Institute for Computational Mechanics, TUM, 2009)

Research Interests

- Computational solid and structural dynamics
- Computational fluid dynamics
- Computational contact dynamics
- Thermomechanics
- Fluid-structure interaction
- Volume- and surface-coupled multi-field problems
- Tribology (friction, wear, fatigue)
- Elastohydrodynamic lubrication
- Multi-scale modeling
- Material modeling
- Mechanics of slender continua (beams and shells)
- Model reduction / dimensional reduction
- Cardiovascular tissue mechanics
- Biomedical mechanical technology (stent grafts)
- Modeling with stochastic uncertainties
- Bayesian multi-fidelity uncertainty quantification (UQ)
- Non-conforming discretization techniques
- Domain decomposition and mortar methods
- Extended finite element methods (XFEM, CutFEM)
- Isogeometric analysis
- Finite element technology
- High performance parallel computing
- Software development

Projects and Funding as Principal Investigator

- *Multi-Scale Modeling of Friction for Large-Scale Engineering Problems*
€ 20,000 / 2 years, 2018 – 2020
German Academic Exchange Service (DAAD), Germany
In collaboration with IMT School for Advances Studies Lucca, Italy
- *A Simulation-Based Digital Toolchain for Patient-Specific Surgery Planning and Risk Prediction in Endovascular Repair (EVAR) of Abdominal Aortic Aneurysms (AAA)*
€ 1,171,000 / 5 years, 2017 – 2022
Bavarian State Ministry of Education, Science and the Arts (StMBW), Germany
In the framework of the Center Digitization.Bavaria (ZD.B)
- *Experimental Characterization and Numerical Simulation of the Automated Fiber Placement (AFP) Process for Thermoplastic Fiber-Reinforced Plastics*
€ 274,000 / 3 years, 2017 – 2020, PO 1883/3-1
German Research Foundation (DFG), Germany
In collaboration with Institute for Carbon Composites, TUM
- *Bottom-Up Modeling of Self-Expandable Stent Grafts for Endovascular Repair of AAA*
€ 40,000 / 2 years, 2016 – 2018
Daimler and Benz Foundation, Germany
Postdoctoral research fellowship
- *CISM Advanced Course – Computational Contact and Interface Mechanics*
€ 25,000 / one-time, 2016
International Center for Mechanical Sciences (CISM), Italy
- *Travel Grant for ECCOMAS Young Investigators Conference 2015*
€ 1,400 / one-time, 2015
German Academic Exchange Service (DAAD), Germany
- *Improved Lifetime Prediction Tools for Fretting Wear and Fatigue*
€ 255,000 / 3 years, 2015 – 2017
Federal Ministry of Economics and Technology (BMWi), Germany
In collaboration with Rolls-Royce, Germany and Rolls-Royce plc., U.K.
- *Advanced Finite Element Modeling of Arterial Stent Placement Procedures*
€ 25,000 / 6 months, 2015
German Academic Exchange Service (DAAD), Germany
Short-term postdoctoral research fellowship
- *A Novel Smooth Discretization Approach for Elasto-Plastic Contact*
€ 246,000 / 3 years, 2014 – 2017, PO 1883/1-1
German Research Foundation (DFG), Germany
In collaboration with Institute for Numerical Mathematics, TUM

(*) *This funding, which roughly corresponds in type and scope to the DFG's Emmy Noether Programme, was approved for five years in August 2017 (as the only junior research group in the field of engineering at all). In contrast to the DFG's Emmy Noether Programme and other comparable funding lines, however, the responsible Bavarian State Ministry does not provide for the early appointment of junior research group leaders to full or associate professorships during the five-year period, so that the research funds were withdrawn when I took up the professorship for Computer-Based Simulation in January 2018.*

Projects and Funding as Contributor

- *New Linux Cluster for the Institute for Computational Mechanics, TUM – State Major Instrumentation Program (“Großgeräte der Länder”)*
Contribution: Proposal Submission
€ 350,000 / one-time, 2015
German Research Foundation (DFG), Germany
- *Components of Rocket Engines for Applications in Space Transport Systems: Subproject 2400 – Fluid-Structure Interaction in Turbopumps*
Contribution: Project Manager
€ 265,000 / 3 years, 2015 – 2017
Bavarian Ministry of Economic Affairs and Media, Energy and Technology, Germany
In collaboration with Airbus Defence and Space, Germany and several TUM institutes
- *Method Developments for CFD including their Application to Multiphysics*
Contribution: Proposal Submission and Project Manager
10,000,000 CPU-h / 3 years, 2014 – 2017
Leibniz Supercomputing Centre (LRZ), Germany
- *Optimized Partitioned FSI Algorithms for Tire Hydroplaning Physics*
Contribution: Project Manager
€ 186,000 / 3 years, 2012 – 2015
Fonds National de la Recherche – AFR Grant, Luxembourg
In collaboration with Goodyear S.A., Luxembourg
- *Interaction of Aerodynamics and Vehicle Driving Dynamics*
Contribution: Project Manager
€ 277,000 / 3 years, 2009 – 2012
BMW Group, Germany
- *Dynamics and Structure Formation in Active Actin Networks*
Contribution: Project Team Leader
€ 233,000 / 4 years, 2010 – 2014
International Graduate School of Science and Engineering, TUM
- *Contact Modeling in Turbine Blade-to-Disc Joints*
Contribution: Proposal Submission and Lead Developer
€ 495,000 / 5 years, 2007 – 2012
Federal Ministry of Economics and Technology (BMW), Germany
In collaboration with Rolls-Royce, Germany and Rolls-Royce plc., U.K.

Organization of Scientific Events

- *Member of the Scientific Committee*
10th Contact Mechanics International Symposium, Chexbres, Switzerland, 2020
- *Main Organizer*
Minisymposium on "Computational Contact Mechanics", with M. Mayr, A. Tkachuk and A.B. Harish, GACM Colloquium on Computational Mechanics, Kassel, Germany, 2019
- *Member of the Scientific Committee*
ECCOMAS Young Investigators Conference, Krakow, Poland, 2019
- *Member of the Scientific Committee*
6th International Conference on Computational Contact Mechanics (ICCCM), Hannover, Germany, 2019
- *Member of the Scientific Committee*
9th International Conference on Computational Methods (ICCM), Rome, Italy, 2018
- *Main Organizer*
Minisymposium on "Computational Mechanics in Complex Product Development", with M. Zimmermann and F. Duddeck, IACM World Congress on Computational Mechanics, New York City, U.S.A., 2018
- *Member of the Scientific Committee*
9th Contact Mechanics International Symposium, Biella, Italy, 2018
- *Main Organizer*
"Science Slam", with S. Elgeti and J.-W. Simon, ECCOMAS European Conference on Computational Mechanics, Glasgow, U.K., 2018
- *Main Organizer*
Minisymposium for "European Young Investigators", with J. Baiges, L. Chamoin, S. Elgeti, F. van der Meer and J.-W. Simon, ECCOMAS European Conference on Computational Mechanics, Glasgow, U.K., 2018
- *Main Organizer*
Minisymposium on "New Challenges in Computational Contact Mechanics", with A. Gay Neto, A.B. Harish and P. Wriggers, ECCOMAS European Conference on Computational Mechanics, Glasgow, U.K., 2018
- *Co-Organizer and Lecturer*
Advanced Course on "Computational Structural Dynamics", with R. Kolman
ECCOMAS Advanced Course, Prague, Czech Republic, 2018
- *Main Organizer*
Minisymposium on "Computational Contact Mechanics", with C. Hesch, A. Tkachuk and C. Wilking, GACM Colloquium on Computational Mechanics, Stuttgart, Germany, 2017
- *Member of the Scientific Committee*
ECCOMAS Young Investigators Conference, Milan, Italy, 2017
- *Member of the Scientific Committee*
8th International Conference on Computational Methods (ICCM), Guilin, China, 2017
- *Main Organizer and Lecturer*
Advanced Course on "Computational Contact and Interface Mechanics", with P. Wriggers
CISM – International Center for Mechanical Sciences, Udine, Italy, 2016

Research

- *Main Organizer*
Minisymposium for “European Young Investigators”, with J. Baiges and J. Simon
ECCOMAS Congress, Crete Island, Greece, 2016
- *Main Organizer*
Minisymposium on “Computational Contact Mechanics”, with C. Hesch and R. Sauer
ECCOMAS Young Investigators Conference, Aachen, Germany, 2015
- *Member of the Organizing Committee*
3rd German-Japanese Workshop on Computational Mechanics:
Joint workshop of GACM and JSCES, Munich, Germany, 2015

Reviewing Activities for International Journals

- International Journal for Numerical Methods in Engineering
- Computer Methods in Applied Mechanics and Engineering
- Computational Mechanics
- Computational Particle Mechanics
- Computers and Structures
- SIAM Journal of Scientific Computing
- Journal of Computational and Applied Mathematics
- Computers and Mathematics with Applications
- Finite Elements in Analysis and Design
- International Journal of Computational Methods
- Journal of Engineering Mechanics (ASCE)
- Journal of Mechanical Science and Technology
- Mechanics of Advanced Materials and Structures
- Computational Materials Science
- International Journal of Mechanical Sciences
- International Journal for Numerical and Analytical Methods in Geomechanics
- Advances in Mechanical Engineering
- Scientific Reports
- Materials
- Materials Research
- Shock and Vibrations
- Communications in Nonlinear Science and Numerical Simulation
- ZAMM Zeitschrift für Angewandte Mathematik und Mechanik

Reviewing Activities for Research Agencies

- Deutsche Forschungsgemeinschaft (DFG)
- European Research Council: ERC Advanced Grant Call 2017, Panel PE8

Editorial Board Activities

- *Member of the Advisory Editorial Board*
Computer Assisted Methods in Engineering and Science (CAMES)

Overview and Citation Metrics

- 1 edited volume (as responsible editor)
- 31 articles in peer-reviewed scientific journals (plus 1 currently under review)
- 7 peer-reviewed proceedings articles and book contributions
- > 40 invited and contributed presentations at international conferences / workshops
- > 930 citations in total / h-Index 17 (Google Scholar)
- > 570 citations in total / h-Index 13 (Scopus)

Edited Volumes

- [1] Popp, A., Wriggers, P. (Eds.) (2018): *Computational Contact Modeling for Solids and Particles*, CISM International Centre for Mechanical Sciences 585, Springer International Publishing

Peer-Reviewed International Journal Articles

- [2] Ager, C., Schott, B., Vuong, A.-T., Popp, A., Wall, W.A. (2019): A consistent approach for fluid-structure-contact interaction based on a porous flow model for rough surface contact, *Preprint*, submitted for publication
- [3] Seitz, A., Wall, W.A., Popp, A. (2019): Nitsche's method for finite deformation thermo-mechanical contact problems, *Computational Mechanics*, published online, DOI: 10.1007/s00466-018-1638-x
- [4] Pauw, J.D., Veggi, L., Haidn, O.J., Wagner, C., Thümmel, T., Rixen, D., Ager, C., Wirtz, A., Popp, A., Wall, W.A., Wagner, B. (2019): An academic approach to the multidisciplinary development of liquid oxygen turbopumps for space applications, *CEAS Space Journal*, published online, DOI: 10.1007/s12567-018-0228-2
- [5] Wunderlich, L., Seitz, A., Alaydin, M.D., Wohlmuth, B., Popp, A. (2019): Biorthogonal splines for optimal weak patch-coupling in isogeometric analysis with applications to finite deformation elasticity, *Computer Methods in Applied Mechanics and Engineering*, 346:197-215
- [6] Meier, C., Popp, A., Wall, W.A. (2019): Geometrically exact finite element formulations for slender beams: Kirchhoff-Love theory vs. Simo-Reissner theory, *Archives of Computational Methods in Engineering*, 26:163-243
- [7] Hiermeier, M., Wall, W.A., Popp, A. (2018): A truly variationally consistent and symmetric mortar-based contact formulation for finite deformation solid mechanics, *Computer Methods in Applied Mechanics and Engineering*, 342:532-560
- [8] Seitz, A., Wall, W.A., Popp, A. (2018): A computational approach for thermo-elasto-plastic frictional contact based on a monolithic formulation employing non-smooth nonlinear complementarity functions, *Advanced Modeling and Simulation in Engineering Sciences*, 5:5 (Open Access)
- [9] Fang, R., Farah, P., Popp, A., Wall, W.A. (2018): A monolithic, mortar-based interface coupling and solution scheme for finite element simulations of lithium-ion cells, *International Journal for Numerical Methods in Engineering*, 114:1411-1437
- [10] Meier, C., Grill, M.J., Wall, W.A., Popp, A. (2018): Geometrically exact beam elements and smooth contact schemes for the modeling of fiber-based materials and structures, *International Journal of Solids and Structures*, 154:124-146

Publications

- [11] Farah, P., Wall, W.A., Popp, A. (2018): A mortar finite element approach for point, line and surface contact, *International Journal for Numerical Methods in Engineering*, 114:255-291
- [12] Wiesner, T.A., Popp, A., Gee, M.W., Wall, W.A. (2018): Algebraic multigrid methods for dual mortar finite element formulations in contact mechanics, *International Journal for Numerical Methods in Engineering*, 114:399-430
- [13] Meier, C., Wall, W.A., Popp, A. (2017): A unified approach for beam-to-beam contact, *Computer Methods in Applied Mechanics and Engineering*, 315:972-1010
- [14] Farah, P., Wall, W.A., Popp, A. (2017): An implicit finite wear contact formulation based on mortar methods, *International Journal for Numerical Methods in Engineering*, 111:325-353
- [15] Meier, C., Popp, A., Wall, W.A. (2016): A finite element approach for the line-to-line contact interaction of thin beams with arbitrary orientation, *Computer Methods in Applied Mechanics and Engineering*, 308:377-413
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