

Curriculum Vitæ

Daniel Peterseim

born May 22, 1980 – Mühlhausen/Thüringen, Germany
nationality German
family status married, two children
affiliation Chair of Computational Mathematics
Institute of Mathematics
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www <http://scicomp.math.uni-augsburg.de>
area of research Numerical Analysis, Scientific Computing,
Computational Mechanics, Computational Physics
main interests Computational partial differential equations, Adaptive algorithms
Numerical homogenization, Computational multiscale methods

Positions

since 2017 Chair of *Computational Mathematics* (W3, professor ordinarius)
Universität Augsburg, Germany
2013-2017 Professor for *Numerical Simulation* (W3)
Universität Bonn, Germany
2009-2013 Head of MATHEON Junior Research Group *Numerical Analysis*
DFG Research Center MATHEON *Mathematics for key technologies*
Humboldt-Universität zu Berlin, Germany
2009 (Postdoctoral) Research assistant
Humboldt-Universität zu Berlin, Germany
2004-2008 (PhD and Postdoctoral) Research assistant
Universität Zürich, Switzerland

Education

2016 Habilitation in Mathematics at Humboldt-Universität zu Berlin, Germany
2007 Dr. sc. nat. in Mathematics at Universität Zürich, Switzerland
2004 Diploma in Mathematics at Technische Universität Ilmenau, Germany

Awards & Offers

2017 Teaching award of Faculty of Mathematics and Natural Sciences, Universität Bonn
2015/16 Offers: W3-professorships at Technische Universität Dortmund, Leibniz Universität Hannover, Otto-von-Guericke-Universität Magdeburg and Universität Augsburg

- 2013 Offers: W3-professorship (5y) at Universität Bonn, W2-professorship at Technische Universität Dresden
- 2012 MATHEON young investigator award
for a pioneering contribution to numerical homogenization
- before 2011 2 Fellowships *German Academic Exchange Service (DAAD) Congress Travel Award*
3 Fellowships *Oberwolfach-Leibniz-Graduate-Students*

Organization of Scientific Events

- 2019 Workshop *Computational Multiscale Methods*, Mathematisches Forschungsinstitut Oberwolfach
with B. Engquist
- 2018 GMM Workshop on *Numerical Analysis*, Universität Augsburg
with L. Grasedyck
<https://www.igpm.rwth-aachen.de/gamm17>
- 2018 Section *Computational Differential Equations*, GMM Annual Meeting Munich
with L. Grasedyck
<http://www.gamm2018.de>
- 2017 GMM Workshop on *Numerical Analysis*, RWTH Aachen
with L. Grasedyck
<https://www.igpm.rwth-aachen.de/gamm17>
- 2017 Trimester program *Multiscale Problems: Algorithms, Numerical Analysis and Computation*, Hausdorff Research Institute for Mathematics Bonn
– Winter School *Numerical Analysis of Multiscale Problems*
– Workshop *Numerical Inverse and Stochastic Homogenization*
– Workshop *Non-local Material Models and Concurrent Multiscale Methods*
with S. C. Brenner, B. Engquist, M. Gunzburger, M.A. Schweitzer
<https://www.him.uni-bonn.de/.../multiscale-problems-2017/...>
- 2017 Workshop on *Isogeometric Finite Element Data Structures based on Bézier Extraction*, TU Munich
with E. Rank, S. Kollmannsberger, A. Düster, A. Schröder, M. Kästner
http://www.cie.bgu.tum.de/workshop_bezier
- 2016 Conference *14th European Finite Element Fair*, Bonn
with D. Gallistl, M. Schedensack
<http://efef2016.ins.uni-bonn.de/>
- 2015 Minisymposium *Numerical Homogenization and Multiscale Model Reduction*, ICIAM Beijing
with E. Chung, L. Jiang, L. Zhang
<http://www.iciam2015.cn/MS-Th-BC-29.html>
- 2014 Workshop *Computational Multiscale Methods*, Mathematisches Forschungsinstitut Oberwolfach
with B. Engquist and C. Carstensen
http://www.mfo.de/occasion/1426/www_view
- 2012-2013 (regular) MATHEON *Multiscale Seminar*, FU/HU/TU Berlin
with R. Klein, K. Schmidt, B. Wagner

<http://www.tu-berlin.de/?120521>

- 2012 MATHEON *Multiscale Workshop* Berlin
with K. Schmidt

Research Grants

- 2017-2020 Project *Adaptive isogeometric modelling of discontinuities in complex shaped solids*
within Priority program 1748 of the German Research Foundation DFG, Co-Principal investigator
(other PI: Prof. M. Kästner, Institut für Festkörpermechanik, TU Dresden, Germany)
<http://gepris.dfg.de/gepris/projekt/255853920>
- 2017-2018 Project *Space-time multiscale methods for the wave equation in heterogeneous media*
German Academic Exchange Service (DAAD), Co-Principal investigator (other PI: Prof. E. T. Chung, Chinese University of Honkong)
- 2014-2017 Project *Adaptive isogeometric modelling of propagating strong discontinuities in heterogeneous materials*
within Priority program 1748 of the German Research Foundation DFG, Co-Principal investigator
(other PI: Prof. M. Kästner, Institut für Festkörpermechanik, TU Dresden, Germany)
<http://gepris.dfg.de/gepris/projekt/255853920>
- 2010-2014 Project *Modeling and Simulation of Composite Materials*
within DFG Research Center MATHEON of the German Research Foundation DFG, Principal Investigator
<http://www2.mathematik.hu-berlin.de/~numa/C33/>

Further Scientific Activities and Service

- member Academia Cearense de Matemática (ACM)
– Corresponding Academician Founder (since 2017)
- International Association of Applied Mathematics and Mechanics (GAMM)
– Head of Activity Group *Numerical Analysis* (since 2017)
– Activity Group *Multiscale Material Modeling* (2013–2016)
- Swiss Mathematical Society (SMG)
- Society for Industrial and Applied Mathematics (SIAM)
- Hausdorff Center for Mathematics, Bonn (2013–2017)
– Research Area B *Shape, pattern and partial differential equations*
– Research Area J *High-Dimensional problems and multi-scale methods*
- DFG Collaborative Research Centre 1060, Bonn (2013–2017)

Supervision

- post-docs R. Altmann (since 2017, U Augsburg)
- M. Schedensack (2015-2017, U Bonn/Augsburg, Marthe-Vogt-Preis – Forschungsverbund Berlin 2016, Humboldt-Preis – HU Berlin 2016, Dr.-Klaus-Körper-Preis – GAMM 2016, now Junior Professor at U Münster)
- D. Gallistl (2014-2016, U Bonn, now Assistant Professor at U Twente Enschede)
- D. L. Brown (2014-2015, U Bonn, now Assistant Professor at U Nottingham)

J. Gedicke (2013, HU Berlin, now Researcher at U Vienna)

M. Eigel (2010-2013, HU Berlin, now Researcher at WIAS Berlin)

phd students D. Varga (since 2017, U Augsburg)

R. Maier (since 2017, U Augsburg)

P. Morgenstern (2013-2017, U Bonn, elected as GAMM junior 2017, now Researcher at Leibniz U Hannover)

K. Köhler (2013-2014, HU Berlin, supervision finished in Berlin by C. Carstensen)

master/diploma T. Rolland (since 2018, U Augsburg/U Rouen)

T. Jacumin (since 2018, U Augsburg/U Rouen)

D. Düsseldorf (2017, U Bonn, now PhD student at U Bonn)

Qi Cheng Hua (2017, U Bonn/ Bosch Rexroth company)

D. Varga (2017, U Bonn, Hausdorff scholarship of Bonn International Graduate School in Mathematics, now PhD student)

R. Maier (2017, U Bonn/ INRIA Nancy, now PhD student)

A. Longva (2017, U Bonn/ NTU Trondheim, now PhD student at RWTH Aachen)

D. Schissler (2016, U Bonn)

T. Gilgen (2016, U Bonn)

P. Huber (2015, U Bonn, now PhD student at U Bonn)

K. Köhler (2013, HU Berlin, co-supervision with C. Carstensen, later PhD student)

N. Graß (2013, HU Berlin, co-supervision with C. Carstensen)

M. Schedensack (2012, HU Berlin, co-supervision with C. Carstensen, later Post-Doc)

V. Künzle (2008, U Zürich, co-supervision with S. A. Sauter)

P. Ullmann (2006, U Zürich, co-supervision with S. A. Sauter)

bachelor students J. Storn (2013, HU Berlin, now PhD student at HU Berlin)

List of Publications

Refereed Publications

- [r36] *Thermo-optical interactions in a dye-microcavity photon Bose-Einstein condensate*
New Journal of Physics, 10(11):115009, 2017
(with H. Alaeian, M. Schedensack, C. Bartels and M. Weitz)
- [r35] *An analysis of a class of variational multiscale methods based on subspace decomposition*
Mathematics of Computation, online, doi:10.1090/mcom/3302, 2017
(with R. Kornhuber and H. Yserentant)
- [r34] *Crank-Nicolson Galerkin approximations to nonlinear Schrödinger equations with disorder potentials*
Mathematical Models and Methods in Applied Sciences, 27(11):2147–2184, 2017
(with P. Henning)
- [r33] *Computation of quasilocal effective diffusion tensors and connections to the mathematical theory of homogenization*
Multiscale Modeling & Simulation, 15(4):1530–1552, 2017
(with D. Gallistl)
- [r32] *Error analysis of a variational multiscale stabilization for convection dominated diffusion equations in 2d*
IMA Journal on Numerical Analysis, in press, 2017
(with G. Li and M. Schedensack)
- [r31] *Relaxing the CFL condition for the wave equation on adaptive meshes*
Journal of Scientific Computing, 72(3):1196–1213, 2017
(with M. Schedensack)
- [r30] *On the stability of the Rayleigh-Ritz method for eigenvalues*
Numerische Mathematik, 137(2):339–351, 2017
(with D. Gallistl and P. Huber)
- [r29] *Adaptive mesh refinement strategies in Isogeometric Analysis – a computational comparison*
Computer Methods in Applied Mechanics and Engineering, 316:424–448, 2017
(with P. Hennig, M. Kästner and P. Morgenstern)
- [r28] *Multiscale Petrov-Galerkin method for high-frequency heterogeneous Helmholtz equations*
In *Meshfree Methods for Partial Differential Equations VIII, Lecture Notes in Computational Science and Engineering*, 115:85–115, Springer, 2017
(with D. L. Brown and D. Gallistl)
- [r27] *Eliminating the pollution effect in Helmholtz problems by local subscale correction*
Mathematics of Computation, 86:1005–1036, 2017
- [r26] *Generalized finite element methods for quadratic eigenvalue problems*
ESAIM: Mathematical Modelling and Numerical Analysis, 51(1):147–163, 2017
(with A. Målqvist)

- [r25] *Complexity of hierarchical refinement for a class of admissible mesh configurations*
Computer Aided Geometric Design, 47:83–92, 2016
(with A. Buffa, C. Giannelli and P. Morgenstern)
- [r24] *Robust numerical upscaling of elliptic multiscale problems at high contrast*
Computational Methods in Applied Mathematics, 16(4):579-603, 2016
(with R. Scheichl)
- [r23] *A multiscale method for porous microstructures*
Multiscale Modeling & Simulation, 14:1123-1152, 2016
(with D. L. Brown)
- [r22] *Variational multiscale stabilization and the exponential decay of finescale correctors*
In *Building Bridges: Connections and Challenges in Modern Approaches to Numerical Partial Differential Equations*, *Lecture Notes in Computational Science and Engineering*, 114:343–369, Springer, 2016
- [r21] *The norm of a discretized gradient in $H(\operatorname{div})^*$ for a posteriori finite element error analysis*
Numerische Mathematik 132(3):519–539, 2016
(with C. Carstensen and A. Schröder)
- [r20] *Stable multiscale Petrov-Galerkin finite element method for high frequency acoustic scattering*
Computer Methods in Applied Mechanics and Engineering 295:1–17, 2015
(with D. Gallistl)
- [r19] *Adaptive analysis-suitable T-mesh refinement with linear complexity*
Computer Aided Geometric Design 34:50–66, 2015
(with P. Morgenstern)
- [r18] *Computation of eigenvalues by numerical upscaling*
Numerische Mathematik 130(2):337-361, 2015
(with A. Målqvist)
- [r17] *Simulation of composite materials by a network FEM with error control*
Computational Methods in Applied Mathematics, 15(1): 21–37, 2015
(with M. Eigel)
- [r16] *Comparison results for the Stokes equations*
Applied Numerical Mathematics 95:118-129, 2015
(with C. Carstensen, K. Köhler and M. Schedensack)
- [r15] *Multiscale partition of unity*
In *Meshfree Methods for Partial Differential Equations VII*, *Lecture Notes in Computational Science and Engineering*, 100:185–204, Springer, 2014
(with P. Henning and P. Morgenstern)
- [r14] *Composite finite elements for elliptic interface problems*
Mathematics of Computation 83:2657–2674, 2014
- [r13] *Localization of elliptic multiscale problems*
Mathematics of Computation 83:2583–2603, 2014
(with A. Målqvist)
- [r12] *Two-level discretization techniques for ground state computations of Bose-Einstein condensates*

- SIAM Journal on Numerical Analysis* 52(4):1525-1550, 2014
(with P. Henning and A. Målqvist)
- [r11] *A localized orthogonal decomposition method for semi-linear elliptic problems*
ESAIM: Mathematical Modelling and Numerical Analysis 48(5):1331-1349, 2014
(with P. Henning and A. Målqvist)
- [r10] *Convergence of a discontinuous Galerkin multiscale method*
SIAM Journal on Numerical Analysis 51(6):3351-3372, 2013
(with D. Elfverson, E. H. Georgoulis and A. Målqvist)
- [r09] *Oversampling for the multiscale finite element method*
SIAM Multiscale Modeling & Simulation 11(4), 1149–1175, 2013
(with P. Henning)
- [r08] *Finite element network approximation of conductivity in particle composites*
Numerische Mathematik, 124(1):73–97, 2013
(with C. Carstensen)
- [r07] *Optimal adaptive nonconforming FEM for the Stokes problem*
Numerische Mathematik, 123(2):291–308, 2013
(with C. Carstensen and H. Rabus)
- [r06] *Comparison results of first-order finite element methods for the Poisson model problem*
SIAM Journal on Numerical Analysis 50(6):2803–2823, 2012
(with C. Carstensen and M. Schedensack)
- [r05] *Finite Elements for Elliptic Problems with Highly Varying, Non-Periodic Diffusion Matrix*
SIAM Multiscale Modeling & Simulation 10(3):665-695, 2012
(with S. A. Sauter)
- [r04] *Robustness of finite element simulations in densely packed random particle composites*
Networks and Heterogeneous Media 7(1):113–126, 2012
- [r03] *Finite element methods for the Stokes problem on complicated domains*
Computer Methods in Applied Mechanics and Engineering 200:2611–2623, 2011
(with S. A. Sauter)
- [r02] *Parallel multistep methods for linear evolution problems*
IMA Journal on Numerical Analysis 32(3):1217-1240, 2011
(with L. Banjai)
- [r01] *The composite mini element – coarse mesh computation of Stokes flows on complicated domains*
SIAM Journal on Numerical Analysis 46(6):3181–3206, 2008
(with S. A. Sauter)

Submitted Articles

- [s04] *Computational Multiscale Methods for Linear Heterogeneous Poroelasticity*
submitted to *Journal of Computational Mathematics*, Arxiv e-prints 1801.00615, 2018
(with R. Altmann, E. T. Chung, S. Pun, and R. Maier)

- [s03] *Numerical homogenization of heterogeneous fractional Laplacians*
submitted to *Multiscale Modeling & Simulation*, Arxiv e-prints 1709.00730, 2017
(with D. L. Brown and J. Gedicke)
- [s02] *Numerical stochastic homogenization by quasilocal effective diffusion tensors*
submitted to *Communications in Mathematical Sciences*, Arxiv e-prints 1702.08858,
2017
(with D. Gallistl)
- [s01] *Efficient implementation of the Localized Orthogonal Decomposition method*
submitted to *Computer Methods in Applied Mechanics and Engineering*, ArXiv e-
prints 1602.01658, 2016
(with C. Engwer, P. Henning and A. Målqvist)

Edited Proceedings

- [e01] *Computational Multiscale Methods*
Oberwolfach Reports, 11(2):1625–1681, 2014
(with B. Engquist and C. Carstensen)

Contributions to Conference Proceedings

- [p17] *An immersed boundary method for detail-preserving soft tissue simulation from medical images*
In *Computational Biomechanics for Medicine*, 2017
(with S. Cotin, R. Maier, and C. Paulus)
- [p16] *Towards adaptive discontinuous Petrov-Galerkin methods*
In *Proceedings in Applied Mathematics and Mechanics*, 16(1):741-742, 2016
(with P. Bringmann, C. Carstensen, D. Gallistl, F. Hellwig, D. Peterseim, S. Puttkammer, H. Rabus, and J. Storn)
- [p15] *Multiscale petrov-galerkin fem for acoustic scattering*
In *Proceedings in Applied Mathematics and Mechanics*, 16(1):745-746, 2016
(with C. Carstensen and D. Gallistl)
- [p14] *Relaxing the CFL condition for the wave equation on adaptive meshes*
In *Proceedings in Applied Mathematics and Mechanics*, 16(1):765-766, 2016
(with M. Schedensack)
- [p13] *Multiscale Petrov-Galerkin finite element method for high frequency acoustic scattering*
In *Computational Engineering, Oberwolfach Reports*, 12(3):2580–2581, 2016
(with D. Gallistl)
- [p12] *Two-level discretization for the Gross-Pitaevskii eigenvalue problem with a rough potential*
In *Computational Multiscale Methods, Oberwolfach Reports*, 11(2):1653–1656, 2014
(with P. Henning and A. Målqvist)
- [p11] *Multiscale techniques for solving quadratic eigenvalue problems*
In *Computational Multiscale Methods, Oberwolfach Reports*, 11(2):1661–1664, 2014
(with A. Målqvist)
- [p10] *Spectrum-preserving two-scale decompositions with applications to numerical homoge-*

- nization and eigensolvers*
In *Interplay of Theory and Numerics for Deterministic and Stochastic Homogenization*, *Oberwolfach Reports* 10(1):850-853, 2013
(with A. Målqvist)
- [p09] *Numerical Upscaling of Eigenvalue Problems*
In *Numerical Upscaling for Media with Deterministic and Stochastic Heterogeneity*, *Oberwolfach Reports* 10(1):402-405, 2013
(with A. Målqvist)
- [p08] *Comparison of finite element methods for the Poisson model problem*
In *Theory and Applications of discontinuous Galerkin Methods*, *Oberwolfach Reports* 9(1):584–587, 2012
(with C. Carstensen and M. Schedensack)
- [p07] *Finite element discretization of multiscale elliptic problems*
In *Advanced Computational Engineering*, *Oberwolfach Reports* 9(1):516–518, 2012
(with A. Målqvist)
- [p06] *Comparison results for first-order FEMs*
In *Advanced Computational Engineering*, *Oberwolfach Reports* 9(1):495–497, 2012
(with C. Carstensen and M. Schedensack)
- [p05] *Composite finite elements for elliptic interface problems*
Proceedings in Applied Mathematics and Mechanics 10(1):661–664, 2010
- [p04] *Triangulating a system of disks*
Proceedings of the 26th European Workshop on Computational Geometry (EWCG)
pages 241–244, 2010
- [p03] *Finite element analysis of particle-reinforced composites*
In *Computational Multiscale Methods*, *Oberwolfach Reports* 6(2):1597–1665, 2009
- [p02] *Recent advances in composite finite elements*
In *Schnelle Löser für Partielle Differentialgleichungen*, *Oberwolfach Reports* 5(2):1233–1293, 2008
(with S. A. Sauter)
- [p01] *The composite mini element: a new mixed FEM for the Stokes equations on complicated domains*
Proceedings in Applied Mathematics and Mechanics 7(1):2020101–2020102, 2007
(with S. A. Sauter)

Theses

- [t03] *Computational Multiscale Methods for Partial Differential Equations*
Habilitation thesis, Humboldt-Universität zu Berlin, 2017
- [t02] *The Composite Mini Element: A mixed FEM for the Stokes equations on complicated domains*
PhD thesis, Universität Zürich, 2007
- [t01] *Numerische Analyse parameterabhängiger periodischer Orbits nichtlinearer dynamischer Systeme mittels Mehrzielmethode und effizienter Fortsetzungstechniken*
Diploma thesis, TU Ilmenau, 2004

Further Publications

- [f01] *Stable simulation of multiscale processes in the under-resolved regime*
ECCOMAS Newsletter, pp. 18–23, June 2016
 (with P. Henning)

Research Presentations

Plenary/Invited Adresses

- 07/2018 *25th International Conference on Domain Decomposition Methods*, St. John's, Newfoundland, Canada
- 10/2017 *Homogenization Theory and Applications*, Weierstraß Institute Berlin, Germany
- 10/2017 *6th Chinese-German Workshop on Computational Mathematics*, Shanghai, China
- 08/2017 *Multiscale Methods and Large-scale Scientific Computing*, Hunan University, Changsha, China
- 06/2017 *German-Russian-USAmerican Workshop Numerical Methods and Mathematical Modelling in Geophysical and Biomedical Sciences*, Russian Academy of Sciences, Moscow, Russia
- 06/2016 *4th CAM-ICCM Workshop: Multiscale and Large-scale Scientific Computing*, Chinese University of Hong Kong
- 09/2015 *28th FEM-Symposium*, Chemnitz, Germany
- 09/2015 *5th Chinese-German Workshop on Computational Mathematics*, Augsburg, Germany
- 07/2014 *EPSRC Durham Symposium of the London Mathematical Society*, Durham, UK
- 01/2013 *Workshop Dissipative Spectral Theory: Operator Theory, PDEs and Numerics*, Cardiff School of Mathematics, UK

Short Courses

- 7/2018 *Summer School MATH@NTUA*, National Technical University of Athens, Greece
- 1/2017 *Hausdorff School on Numerical Analysis of Multiscale Problems*, Hausdorff Research Institute for Mathematics Bonn, Germany
- 02/2011 *Winter School on Adaptive Computational PDEs*, BITS-Pilani Goa Campus, India

Invited Conference Talks

- 10/2018 *Workshop Computational Engineering*, Mathematisches Forschungsinstitut Oberwolfach, Germany
- 09/2018 *Workshop Numerical Methods for Evolution Equations*, Heraklion, Crete
- 07/2018 *Workshop Geometric processing and finite elements*, Erwin Schrödinger International Institute for Mathematics and Physics (ESI), Vienna, Austria
- 06/2018 *Workshop Interplay of multiscale data assimilation and data science with advanced PDE discretizations*, Erwin Schrödinger International Institute for Mathematics and Physics (ESI), Vienna, Austria
- 05/2018 *Program Analysis, Modeling, and Computation for Nanoscale Systems*, The Fields Institute for Research in Mathematical Sciences, Toronto, Canada

- 07/2017 Workshop *Mechanical and Mathematical Analysis of Nonstandard Discretization Methods*, RWTH Aachen, Germany
- 07/2017 Workshop *Multiresolution and Adaptivity in Numerical PDEs* at FoCM, Barcelona, Spain
- 03/2013 Workshop *Interplay of Theory and Numerics for Deterministic and Stochastic Homogenization*, Mathematisches Forschungsinstitut Oberwolfach, Germany
- 02/2013 Symposium *Higher-Order and DG Methods for Flow and Transport*, Computational Mechanics (ACM 2013), San Diego, California, USA
- 02/2012 Workshop *Theory and Applications of Discontinuous Galerkin Methods*, Mathematisches Forschungsinstitut Oberwolfach, Germany
- 02/2012 Workshop *Advanced Computational Engineering*, Mathematisches Forschungsinstitut Oberwolfach, Germany
- 11/2010 Berlin-Seoul Workshop, Yonsei University Seoul, Korea
- 06/2010 5th Scientific Computing Seminar, CAU Kiel, Germany
- 06/2009 Workshop *Computational Multiscale Methods*, Mathematisches Forschungsinstitut Oberwolfach, Germany
- 05/2008 Workshop *Schnelle Löser für partielle Differentialgleichungen*, Mathematisches Forschungsinstitut Oberwolfach, Germany

Colloquia and Invited Seminar Talks

- 01/2018 Faculty of Mathematics, TU München, Germany
- 12/2017 Departement of Mathematics, Universität Freiburg, Germany
- 12/2016 Departement of Mathematics, Universität Basel, Switzerland
- 11/2016 Departement of Mathematics, KTH Royal Institute of Technology, Stockholm, Sweden
- 10/2016 Center for Computational Engineering Science, RWTH Aachen, Germany
- 12/2015 Institut für Mathematik, Humboldt-Universität zu Berlin, Germany
- 11/2015 Institute of Natural Sciences, Shanghai Jiao Tong University, China
- 11/2015 Department of Mathematics, Shanghai Jiao Tong University, China
- 10/2015 Colloquium of SFB 1114, FU Berlin, Germany
- 04/2015 MATHICSE Seminar, EPF Lausanne, Switzerland
- 12/2014 Department of Mathematics, Technical University of Athens, Greece
- 11/2014 Computational and Applied Mathematics Seminar, Chalmers University of Technology, Göteborg, Schweden
- 11/2012 Department of Mathematics, Strathclyde University, Glasgow, Scotland
- 10/2012 Institut für Mathematik, Universität Zürich, Switzerland
- 06/2012 Colloquium of AG Modellierung, Numerik, Differentialgleichungen, Technische Universität Berlin, Germany
- 11/2011 Department of Mathematics, University of Leicester, UK
- 06/2011 Maths and Applications Sussex Seminar, University of Sussex, Brighton, UK
- 12/2009 Institut für Mathematik, Universität Zürich, Schweiz

11/2008 Institut für Mathematik, Humboldt-Universität zu Berlin
 06/2008 Fraunhofer ITWM Kaiserslautern

Contributed talks

03/2018 GAMM Annual Meeting, München, Germany
 03/2018 DMV Annual Meeting, Paderborn, Germany
 03/2017 GAMM Annual Meeting, Weimar, Germany
 06/2016 MAFELAP, London, UK
 01/2016 WONAPDE, Universidad de Concepción, Chile
 08/2015 ICIAM, Beijing, China
 07/2015 USNCCM, San Diego, California, USA
 06/2015 CEDYA, Cadiz, Spain
 07/2014 WCCM, Barcelona, Spain
 05/2014 EFEF, Vienna, Austria
 07/2013 USNCCM, Raleigh, North Carolina, USA
 06/2013 7th GAMM-Seminar on Multiscale Material Modeling, TU Dresden, Germany
 01/2013 WONAPDE 2013, Universidad de Concepción, Chile
 11/2012 Multiscale-Seminar, TU Berlin, Germany
 08/2012 PUM-Workshop, Humboldt-Universität zu Berlin, Germany
 08/2012 CMAM, Humboldt-Universität zu Berlin, Germany
 07/2012 WCCM, Sao Paulo, Brasil
 04/2012 MATHEON Multiscale Workshop, TU Berlin, Germany
 07/2011 ICIAM, Vancouver, Canada
 07/2011 RMMM, EPF Lausanne, Switzerland
 06/2011 EFEF, Paris, France
 06/2010 SIMAI 2010, Università di Cagliari, Italy
 03/2010 GAMM 2010, Karlsruhe, Germany
 03/2010 EuroCG, Dortmund, Germany
 07/2009 ENUMATH, Uppsala, Sweden
 06/2009 EFEF, Helsinki, Finnland
 01/2009 GAMM-Seminar, Leipzig, Germany
 09/2008 DMV Annual Meeting, Erlangen, Germany
 08/2008 12th Serbian mathematics congress, Novi Sad, Serbia
 05/2008 EFEF, Göteborg, Sweden
 09/2007 ENUMATH, Graz, Austria
 07/2007 ICIAM, Zürich, Switzerland
 06/2007 3rd Scientific Computing Seminar, CAU Kiel, Germany
 05/2007 EFEF, Luminy, France
 04/2007 Colloque Numérique Suisse, Genève, Switzerland

Other Conferences and Workshops Attended

- 09/2016 Workshop *Adaptive Algorithms* , Mathematisches Forschungsinstitut Oberwolfach, Germany
- 08/2010 Workshop *Wavelet and Multiscale Methods*, Mathematisches Forschungsinstitut Oberwolfach, Germany
- 11/2009 Seminar *Computational Fluid Dynamics*, Mathematisches Forschungsinstitut Oberwolfach, Germany