

### Contact

Address UT-Austin, POB 4.252, 201 E. 24th Street, Austin, Texas 78712, US  
Email & Phone peng@oden.utexas.edu, +1 512-232-3453 (office)  
Homepage <https://users.odn.utexas.edu/~peng/>

### Academic Education

Mar.11–May.14 **Ph.D. in Computational Mathematics, EPFL, Switzerland.**  
Sep.09–Feb.11 **Master in Mathematical Sciences, EPFL, Switzerland.**  
Sep.05–Jul.09 **Bachelor in Mathematics, Xi'an Jiaotong University, China.**

### Professional Experience

Feb.22–present **Research Scientist**, The Oden Institute for Computational Engineering & Sciences, UT Austin, US.  
Sep.15–Feb.22 **Research Associate**, The Oden Institute for Computational Engineering & Sciences, UT Austin, US.  
Feb.15–Aug.15 **ETH Instructor**, Department of Mathematics, ETH Zurich, Switzerland.  
Jul.14–Aug.15 **Postdoctoral Associate**, Department of Mathematics, ETH Zurich, Switzerland.

### Publications ([link to Google Scholar](#))

#### Books and book chapters

- [B3] *Numerical Methods for High-Dimensional Problems: Applications in Uncertainty Quantification*, with Ch. Schwab, R. Gantner, O. Ghattas, in preparation, 300+ pages, 2021.
- [B2] P. Chen, Ch. Schwab. [Model order reduction methods in computational uncertainty quantification](#). Handbook of Uncertainty Quantification. Editors R. Ghanem, D. Higdon and H. Owhadi. Springer, 2016.
- [B1] P. Chen, Ch. Schwab. [Adaptive sparse grid model order reduction for fast Bayesian estimation and inversion](#), Sparse Grids and Applications. Editors J Garcke, D. Pflüger, Springer, 2014.

#### Preprints

- [P5] K. Wu, T. O'Leary-Roseberry, P. Chen, and O. Ghattas. [Derivative-informed projected neural network for large-scale Bayesian optimal experimental design](#). , preprint, arXiv:2201.07925, 2022.
- [P4] P. Chen., J. Royset. [Performance bounds for PDE-constrained optimization under uncertainty](#) , preprint, arXiv:2110.10269, 2021.

- [P3] K. Wu, P. Chen., O. Ghattas. [A fast and scalable computational framework for goal-oriented linear Bayesian optimal experimental design: Application to optimal sensor placement](#), preprint, arXiv:2102.06627, 2021.
- [P2] Y. Wang, P. Chen, W. Li. [Projected Wasserstein gradient descent for high-dimensional Bayesian inference](#), preprint, arXiv:2102.06350, 2021.
- [P1] K. Wu, P. Chen., O. Ghattas. [A fast and scalable computational framework for large-scale and high-dimensional Bayesian optimal experimental design](#), preprint, arXiv:2010.15196, 2020.

### Journal articles

- [J22] T. O’Leary-Roseberry, U. Villa, P. Chen, O. Ghattas. [Derivative-informed projected neural networks for high-dimensional parametric maps governed by PDEs](#), Computer Methods in Applied Mechanics and Engineering, 388, 114199, 2022.
- [J21] P. Chen., O. Ghattas. [Taylor approximation for chance constrained optimization problems governed by partial differential equations with high-dimensional random parameters](#), SIAM/ASA Journal on Uncertainty Quantification, 9(4), 1381-1410, 2021.
- [J20] P. Chen., K. Wu, O. Ghattas. [Bayesian inference of heterogeneous epidemic models: Application to COVID-19 spread accounting for long-term care facilities](#), Computer Methods in Applied Mechanics and Engineering, 385, 114020, 2021.
- [J19] P. Chen., O. Ghattas. [Stein variational reduced basis Bayesian inversion](#), SIAM Journal on Scientific Computing, 43(2), A1163–A1193, 2021.
- [J18] P. Chen., M. Haberman, O. Ghattas. [Optimal design of acoustic cloak under uncertainty](#), Journal of Computational Physics, 431, 110114, 2021.
- [J17] N. Alger, P. Chen., O. Ghattas. [Tensor train construction from tensor actions, with application to compression of large high order derivative tensors](#), SIAM Journal on Scientific Computing, 42(6):A3516–A3539, 2020.
- [J16] P. Chen, U. Villa, O. Ghattas. [Taylor approximation and variance reduction for PDE-constrained optimal control problems under uncertainty](#), Journal of Computational Physics, 385:163-186, 2019.
- [J15] P. Chen, O. Ghattas. [Hessian-based sampling for high-dimensional model reduction](#), International Journal for Uncertainty Quantification, 9.2, 103-121, 2019.
- [J14] P. Chen. [Sparse quadrature for high-dimensional integration with Gaussian measure](#), ESAIM: Mathematical Modelling and Numerical Analysis, 52(2):631–657, 2018.
- [J13] P. Chen, U. Villa, O. Ghattas [Hessian-based adaptive sparse quadrature for infinite-dimensional Bayesian inverse problems](#), Computer Methods in Applied Mechanics and Engineering, 327:147–172, 2017.
- [J12] P. Chen, A. Quarteroni, G. Rozza. [Reduced basis methods for uncertainty quantification](#). SIAM/ASA Journal on Uncertainty Quantification, 5(1):813–869, 2017.
- [J11] P. Chen, Ch. Schwab. [Sparse grid, reduced basis Bayesian inversion: nonaffine parametric nonlinear equations](#), Journal of Computational Physics, 316:470-503, 2016.
- [J10] P. Chen, Ch. Schwab. [Sparse grid, reduced basis Bayesian inversion](#). Computer Methods in Applied Mechanics and Engineering, 279:84-115, 2015.
- [J9] P. Chen, A. Quarteroni. [A new algorithm for high-dimensional uncertainty quantification problems based on dimension-adaptive and reduced basis methods](#). Journal of Computational Physics, 298:176-193, 2015.

- [J8] P. Chen, A. Quarteroni, G. Rozza. [Multilevel and weighted reduced basis method for stochastic optimal control problems constrained by Stokes equations](#). *Numerische Mathematik*, 133(1):67-102, 2015.
- [J7] P. Chen, A. Quarteroni. [Weighted reduced basis method for stochastic optimal control problems with elliptic PDE constraints](#). *SIAM/ASA Journal on Uncertainty Quantification*, 2(1):364-396, 2014.
- [J6] P. Chen, A. Quarteroni, G. Rozza. [A weighted empirical interpolation method: A priori convergence analysis and applications](#). *ESAIM: Mathematical Modelling and Numerical Analysis*, 48(04):943-953, 2014.
- [J5] P. Chen, A. Quarteroni, G. Rozza. [Comparison of reduced basis and stochastic collocation methods for elliptic problems](#). *Journal of Scientific Computing*, 59:187-216, 2014.
- [J4] P. Chen, A. Quarteroni, G. Rozza. [Stochastic optimal robin boundary control problems of advection-dominated elliptic equations](#). *SIAM Journal on Numerical Analysis*, 51(5):2700-2722, 2013.
- [J3] P. Chen, A. Quarteroni. [Accurate and efficient evaluation of failure probability for partial differential equations with random input data](#). *Computer Methods in Applied Mechanics and Engineering*, 267(0):233-260, 2013
- [J2] P. Chen, A. Quarteroni, G. Rozza. [Simulation-based uncertainty quantification of human arterial network hemodynamics](#). *International Journal for Numerical Methods in Biomedical Engineering*, 29(6):698-721, 2013.
- [J1] P. Chen, A. Quarteroni, G. Rozza. [A weighted reduced basis method for elliptic partial differential equation with random input data](#). *SIAM Journal on Numerical Analysis*, 51(6):3163-3185, 2013.

### Peer-reviewed Conference Proceedings

- [C5] N. Aretz-Nellesen, P. Chen, K. Veroy. [Sensor selection for hyper-parameterized linear Bayesian inverse problems](#), *Proceedings in Applied Mathematics & Mechanics*, 20(S1), e202000357, 2021.
- [C4] P. Chen, O. Ghattas. [Projected Stein variational gradient descent](#), *Advances in Neural Information Processing Systems (NeurIPS)*, 2020.
- [C3] P. Chen, K. Wu, J. Chen, T. O'Leary-Roseberry, O. Ghattas. [Projected Stein variational Newton: A fast and scalable Bayesian inference method in high dimensions](#), *Advances in Neural Information Processing Systems (NeurIPS)*, 2019.
- [C1] N. Aretz-Nellesen, P. Chen, M.A. Grepl, K. Veroy. [A sequential sensor selection strategy for hyper-parameterized linear Bayesian inverse problems](#), *Numerical Mathematics and Advanced Applications ENUMATH 2019*.
- [C1] P. Chen, U. Villa, O. Ghattas. [Taylor approximation for PDE-constrained optimization under uncertainty: Application to turbulent jet flow](#). *Proceedings in Applied Mathematics & Mechanics*, 18(1), 2018.

### Theses

- [T2] P. Chen. [Model order reduction techniques for uncertainty quantification problems](#). Ph.D. Thesis, EPFL, 2014.
- [T1] P. Chen. [The lattice Boltzmann method for fluid dynamics: Theory and applications](#). Master Thesis, EPFL, 2011.

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## Research Grants

- [G2] P. Chen (PI), O. Ghattas (Co-PI). [Scalable Computational Methods for Large-Scale Stochastic Optimization under High-Dimensional Uncertainty](#). National Science Foundation, Division Of Mathematical Sciences. Award # DMS-2012453. 09.2020-08.2023.
- [G1] O. Ghattas and K. Willcox (Co-Directors), P. Chen (Co-I). [AEOLUS: Advances in Experimental Design, Optimal Control, and Learning for Uncertain Complex Systems](#). U.S. Department of Energy, Mathematical Multifaceted Integrated Capabilities Center (MMICC). Award # DE-SC0019303, 09.2018-09.2022.

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## Research Supervision

### Graduate students

- 2021 – Yuhang Li, CSEM PhD student at Oden Institute, UT Austin  
Topics: Bayesian inference, optimal experimental design
- 2020 – Bassel Saleh, CSEM PhD student at Oden Institute  
Topics: Multifidelity Bayesian inference, importance sampling, with application to gravitational-wave astronomy
- 2019 – Dingcheng Luo, CSEM PhD student at Oden Institute, UT Austin  
Topics: PDE-constrained stochastic optimization under uncertainty, with application to directed self-assembly materials
- 2018 – Keyi Wu, Math PhD student at Department of Mathematics, UT Austin  
Topics: Bayesian optimal experimental design, active learning, with application to PDE models
- 2017 – Joshua Chen, CSEM PhD student at Oden Institute, UT Austin  
Topics: Data assimilation, variational inference, sparse grids, with application to directed self-assembly materials
- 2017 – 2020 Thomas O’Leary-Roseberry, CSEM PhD student at Oden Institute, UT Austin  
Topics: Scientific machine learning for high-dimensional parametric PDEs, with application to wave propagation

### Undergraduate students

- 2021- Ibad Momin, undergraduate student at Cockrell School of Engineering, UT Austin  
Topics: modeling, learning, prediction, and optimization of COVID-19
- 2021- Tien Vo, undergraduate student at Department of Mathematics, UT Austin  
Topics: modeling, learning, prediction, and optimization of COVID-19
- 2019 Zihang Zhang, undergraduate student at Department of Mathematics, Peking University  
Topics: summer internship research on variational inference and model reduction

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## Teaching

- 2021 Fall Assistant for Computational and Variational Methods for Inverse Problems
- 2020 Fall Assistant for Finite Element Method in Geophysics
- 2019 Summer Joint Lecturer for CliMathParis2019 on The Mathematics of Climate and the Environment
- 2019 Spring Lecturer for a short course on High-dimensional Parametric PDEs at Peking University
- 2015 Spring Joint Lecturer for NAS: Computational Reduction Methods

- 2014 Fall Assistant for Numerical Analysis of High-Dimensional Problems
- 2014 01-02 Lecturer for Introduction to Uncertainty Quantification Problems
- 2014 Spring Head Assistant for Analysis II
- 2013 Fall Head Assistant for Analysis I
- 2013 Spring Head Assistant for Géométrie
- 2012 Fall Head Assistant for Analysis I
- 2012 Fall Supervising Bachelor project
- 2011 Fall Assistant for Statistics and Probability
- 2011 Spring Head Assistant for Analysis III

## Referee for Journals and Conferences

Journal of Computational Physics, Computer Methods in Applied Mechanics and Engineering, International Journal of Numerical Methods in Engineering, Advances of Computational Mathematics, SIAM: SIAM Journal on Scientific Computing, SIAM/ASA Journal on Uncertainty Quantification, ESAIM: Mathematical Modelling and Numerical Analysis, Communications in Computational Physics, Proceedings of the Royal Society A, Computational and Applied Mathematics, Finite Element in Analysis and Design, PLOS Computational Biology, Journal of Biomechanics, International Conference on Machine Learning, Conference on Neural Information Processing Systems, IEEE Transactions on Neural Networks and Learning Systems, Numerical Algorithms, AIAA Journal

## Honours and Awards

- 2013 SIAM Student Travel Award.
- 2009 – 2011 EPFL Excellence Fellowships.
- 2009 Excellent Student of Xi'an Jiaotong University, 1 in School of Science
- 2008 Meritorious Winner of Mathematical Contest in Modeling, SIAM.
- 2007 First Prize of China Undergraduate Mathematical Contest in Modeling, CSIAM.
- 2006, 2008 First Class National Scholarship, Ministry of Education, China.
- 2007 Kang PENG (President) Scholarship, Xi'an Jiaotong University, China.

## Seminars/Conferences/Workshops

### Organized minisymposiums in conferences

- [O13] **USACM 2021**, 16th U.S. National Congress on Computational Mechanics, Chicago, US, July 25-29, 2021, with Xun Huan, Omar Ghattas, and Youssef Marzouk  
**Minisymposium topic:** Optimal experimental design in computational science and engineering.
- [O12] **SIAM OP21**, SIAM Conference on Optimization 2021, virtually, July 20-23, with Thomas O'Leary-Roseberry, Omar Ghattas  
**Minisymposium topic:** Beyond First Order Methods in Large-Scale Stochastic Optimization.
- [O11] **SIAM AN21**, SIAM Annual Meeting 2021, with Thomas O'Leary-Roseberry, Omar Ghattas  
**Minisymposium topic:** Deep Learning for High-Dimensional Parametric PDEs.

- [O10] **SIAM CSE 2021**, SIAM Conference on Computational Science and Engineering, Fort Worth, US, March 1-5, 2021, with Xun Huan, Omar Ghattas, and Youssef Marzouk  
**Minisymposium topic:** Optimal experimental design in computational science and engineering.
- [O9] **WCCM-ECCOMAS 2020**, 14th World Congress on Computational Mechanics and 8th European Congress on Computational Methods in Applied Sciences and Engineering, Paris, France, Jan 11- 15, 2021, with Xun Huan, Omar Ghattas, and Youssef Marzouk  
**Minisymposium topic:** Model-based optimal experimental design.
- [O8] **SIAM UQ 2020**, SIAM Conference on Uncertainty Quantification, Garching, Germany, Mar 24- 27, 2021, with Omar Ghattas  
**Minisymposium topic:** Advances in Bayesian optimal experimental design.
- [O7] **ICIAM 2019**, The International Congress on Industrial and Applied Mathematics (ICIAM), Valencia, Spain, July 15-July 19, 2019, with Omar Ghattas  
**Minisymposium topic:** PDE-constrained optimization under uncertainty.
- [O6] **AIP 2019**, Applied Inverse Problems Conference, Grenoble, France, July 8-July 12, 2019, with Omar Ghattas and Youssef Marzouk  
**Minisymposium topic:** Recent advances on large-scale Bayesian optimal experimental design.
- [O5] **SIAM CSE 2019**, SIAM Conference on Computational Science & Engineering (CSE19), Spokane, US, February 25-March 1, 2019, with Omar Ghattas  
**Minisymposium topic:** Advances in Reduced Order Modeling for Uncertainty Quantification.
- [O4] **SIAM UQ 2018**, SIAM Conference on Uncertainty Quantification (UQ18), Garden Grove, US, April 16-April 19, 2018, with Gianluigi Rozza and Omar Ghattas  
**Minisymposium topic:** Advances in Reduced Order Modeling for Uncertainty Quantification.
- [O3] **SIAM CSE 2017**, SIAM Conference on Computational Science & Engineering (CSE17), Atlanta, US, February 27-March 8, 2017, with Georg Stadler and Omar Ghattas  
**Minisymposium topic:** PDE-Constrained Optimal Control Under Uncertainty.
- [O2] **SIAM UQ 2016**, SIAM Conference on Uncertainty Quantification (UQ16), Lausanne, Switzerland, April 5-8, 2016, with Irina K. Tezaur and Gianluigi Rozza  
**Minisymposium topic:** Reduced Order Modelling for UQ PDEs Problems: Optimization, Control, Data Assimilation.
- [O1] **ICIAM 2015**, The International Congress on Industrial and Applied Mathematics (ICIAM), Beijing, China, August 10 - 14, 2015, with Alfio Quarteroni and Gianluigi Rozza  
**Minisymposium topic:** Reduced order modeling in UQ and CFD.
- Invited seminars**
- [S17] **XJTU**, Mathematics Seminar, Xi'an Jiaotong University, May 5th, 2021  
**Invited seminar:** Fast and scalable computational methods for learning and optimization under uncertainty.
- [S16] **Cornell**, SCAN Seminar, Cornell University, April 12th, 2021  
**Invited seminar:** Projected Variational Methods for High-dimensional Bayesian Inference.

- [S15] **UCLA**, Optimal Transport and Mean Field Game Seminar, University of California, Los Angeles, September 16th, 2020  
**Invited seminar:** Break the curse of dimensionality of Bayesian inference by projected variational transport methods, with application in COVID-19.
- [S14] **USC**, Applied and Computational Mathematics Seminar, University of South Carolina, April 26th, 2019  
**Invited seminar:** Hessian in action for model reduction, stochastic optimization, and Bayesian inversion.
- [S13] **SUSTech**, Numerical Analysis Seminar, Southern University of Science and Technology, December 28th, 2017  
**Invited seminar:** Towards breaking the curse of dimensionality: Sparse polynomial and reduced basis approximations
- [S12] **ShanghaiTech**, Numerical Analysis Seminar, Shanghai Tech University, December 27th, 2017  
**Invited seminar:** Towards breaking the curse of dimensionality: Sparse polynomial and reduced basis approximations
- [S11] **ECNU**, Numerical Analysis Seminar, East China Normal University, December 26th, 2017  
**Invited seminar:** Towards breaking the curse of dimensionality: Sparse polynomial and reduced basis approximations
- [S10] **SJTU**, Numerical Analysis Seminar, Shanghai Jiao Tong University, December 25th, 2017  
**Invited seminar:** Taylor approximation and variance reduction for PDE-constrained optimal control under uncertainty.
- [S9] **UMUC**, Numerical Analysis Seminar, The University of Maryland University College, April 4th, 2016  
**Invited seminar:** Computational reduction for PDE-constrained optimal control under uncertainty.
- [S8] **Duke U.**, Applied Math & Analysis Seminar, Duke University, December 5th, 2016  
**Invited seminar:** Sparse quadrature for high-dimensional integration with Gaussian measure—breaking the curse of dimensionality.
- [S7] **NC State U.**, Numerical Analysis Seminar, North Carolina State University, September 8th, 2016  
**Invited seminar:** Adaptive sparse quadrature for high-dimensional integration with Gaussian distribution—application to Bayesian inverse problems.
- [S6] **UT Austin**, ICES, The University of Texas at Austin, May 3rd, 2016  
**Invited seminar:** Adaptive sparse grid, reduced basis for Bayesian inverse problems.
- [S5] **Stanford**, Farhat Research Group, Stanford University, 20 March, 2015.  
**Invited seminar:** Adaptive sparse grid, reduced basis approximation for Bayesian inverse problems: on convergence.
- [S4] **Caltech**, Computing + Mathematical Science, California Institute of Technology, Pasadena, 11 March, 2015.

**Invited seminar:** Adaptive sparse grid, reduced basis approximation for Bayesian inverse problems.

- [S3] **Warwick U**, Mathematical Interdisciplinary Research at Warwick, University of Warwick, Coventry, 17 November, 2014.

**Invited seminar:** Sparse grid, reduced basis approximation for Bayesian inverse problems.

- [S2] **ETH Zurich**, Seminar for Applied Mathematics, Swiss Federal Institute of Technology in Zurich, Zurich, 10 March, 2014.

**Invited seminar:** Reduced basis methods for uncertainty quantification problems.

- [S1] **CAS**, The Institute of Computational Mathematics and Scientific/Engineering Computing of Chinese Academy of Science, Beijing, 06 May, 2013.

**Invited seminar:** Reduced basis methods and several extensions for uncertainty quantification problems.

### Conferences and Symposiums

- [C16] **SIAM AN 2021**, SIAM Annual Meeting, Virtually, July 23, 2021.

**Invited minisymposium talk:** Stein Variational Reduced Basis Bayesian Inversion.

- [C15] **SIAM CSE 2021**, SIAM Conference on Computational Science & Engineering, Virtually, March 1, 2021.

**Invited minisymposium talk:** Taylor Approximation for Chance Constrained Optimization.

- [C14] **SIAM DMS 2020**, SIAM conference on Mathematics of Data Science, Virtually, June 8, 2020.

**Invited minisymposium talk:** Projected Stein variational methods for high-dimensional Bayesian inverse.

- [C13] **ICIAM 2019**, International Congress on Industrial and Applied Mathematics, Valencia, Spain, July 15-July 19, 2019.

**Invited minisymposium talk:** Data-drive reduced basis method for variational Bayesian inference.

- [C12] **AIP 2019**, Applied Inverse Problems, Grenoble, France, July 8-July 12, 2019.

**Invited minisymposium talk:** A Stein variational newton method for optimal experimental design.

- [C11] **SIAM CSE 2019**, SIAM Conference on Computational Science and Engineering (CSE19), Spokane, US, February 25-March 1, 2019.

**Invited minisymposium talk at MS 247:** Breaking the curse of dimensionality for PDE-constrained optimization under uncertainty.

- [C10] **SIAM CSS 2018**, The 4th Annual meeting of SIAM Central States Section, Oklahoma, US, October 7-October 10, 2018.

**Invited minisymposium talk at MS 15:** Sparse Quadrature for High-dimensional Bayesian Inverse Problems.

- [C9] **GAMM 2018**, GAMM Annual meeting, Munich, Germany, March 19-March 23, 2018.

**Invited minisymposium talk at MS5:** Taylor Approximation for PDE-Constrained Optimization Under Uncertainty: Application to a Turbulence Model.

- [C8] **SIAM UQ18**, SIAM Conference on Uncertainty Quantification, Garden Grove, US, April 16-April 19, 2018.



- Invited minisymposium talk at MS97:** Scalable Approximation of PDE-Constrained Optimization Under Uncertainty: Application to Turbulent Jet Flow.
- [C7] **SIAM CSE17**, SIAM Conference on Computational Science & Engineering (CSE17), Atlanta, US, February 27-March 3, 2017.
- Invited minisymposium talk at MS319:** Taylor Approximation for PDE-Constrained Optimal Control Problems Under High-Dimensional Uncertainty: Application to a Turbulence Model.
- [C6] **SIAM UQ16**, SIAM Conference on Uncertainty Quantification, Lausanne, Switzerland, April 5 - 8, 2016.
- Invited minisymposium talk at MS13:** Sparse Grid, Reduced Basis Bayesian Inversion.
- [C5] **SIAM CSE15**, SIAM Conference on Computational Science and Engineering, Utah, USA, March 14 - 18, 2015.
- Invited minisymposium talk I at MS34:** Sparse grid, reduced basis method in Bayesian inverse problems.
- Invited minisymposium talk II at MS187:** Reduced basis methods for uncertainty quantification problems.
- [C4] **SIAM UQ14**, SIAM Conference on Uncertainty Quantification, Savannah, USA, March 31 - April 03, 2014.
- Invited minisymposium talk I at MS10:** Reduced Basis Method and Several Extensions for Uncertainty Quantification Problems.
- Invited minisymposium talk II at MS51:** Multilevel and weighted reduced basis method for optimal control problems constrained by stochastic PDEs.
- Invited minitutorial (partial) at MT3:** Reduced order methods for modelling and computational reduction in UQ problems.
- [C3] **DDMOPDEC 2013**, Domain Decomposition Methods for Optimization with PDE Constraints, Monte Verita, Ascona, Switzerland, 01-06, September, 2013.
- Invited minisymposium talk:** Weighted reduced basis method for stochastic optimal control problems with PDE constraints.
- [C2] **ENUMATH 2013**, European Conference on Numerical Mathematics and Advanced Applications, EPFL, Lausanne, Switzerland, 26-30, August, 2013.
- Contributed talk:** A weighted reduced basis method for elliptic partial differential equations with random input data.
- [C1] **MPF 2013**, International Symposium on Modelling of Physiological Flows, Chia Laguna, Italy, 11-14 June, 2013.
- Contributed talk:** Uncertainty quantification of human arterial system.
- Workshops and Colloquiums**
- [W14] **BIRS 2021**, Optimization under Uncertainty: Learning and Decision Making, Banff, Canada, February 8–12, 2021.
- Invited talk:** Taylor approximation for PDE and chance constrained optimization under uncertainty.
- [W13] **IPAM 2020**, High Dimensional Hamilton-Jacobi PDEs Workshop II: PDE and Inverse Problem Methods in Machine Learning, Los Angeles, US, April 20–24, 2020.
- Invited talk:** Projected Stein variational methods for high-dimensional Bayesian inversion constrained by large-scale PDEs.

- [W12] **RICAM 2019**, Optimization and Inversion under Uncertainty, Linz, Austria, November 11–15, 2019.  
**Invited talk:** Scalable Approximation of PDE-Constrained Optimization Under Uncertainty.
- [W11] **BICMR 2017**, BICMR Young Researchers Workshop, Beijing, China, December 18–20, 2017.  
**Invited talk:** Scalable Approximation of PDE-Constrained Optimization Under Uncertainty: Application to Turbulent Jet Flow.
- [W10] **Maday's 60**, Congress in honor of Yvon Maday for his 60th birthday, Station biologique de Roscoff, France, May 2–5, 2017.  
**Invited talk:** Hessian-based model reduction.
- [W9] **QUIET 2017**, Quantification of Uncertainty: Improving Efficiency and Technology, Trieste, Italy, July 18–21, 2017.  
**Invited talk:** Hessian-based model reduction.
- [W8] **SGA 2016**, Miami, 4th Workshop on Sparse Grid and Applications, Miami, US, Oct 4–7, 2016.  
**Contributed talk:** Adaptive sparse quadrature for high-dimensional integration with Gaussian distribution- application to Bayesian inverse problems.
- [W7] **ICERM workshop 2016**, Stochastic numerical algorithms, multiscale modeling and high-dimensional data analytics, Providence, US, July 18–22, 2016.  
**Contributed talk:** Adaptive sparse quadrature for high-dimensional integration with Gaussian distribution- application to Bayesian inverse problems.
- [W6] **SGA 2014**, 3rd Workshop on Sparse Grids and Applications, Stuttgart, Germany, September 01 - 05, 2014.  
**Contributed talk:** Model order reduction in uncertainty quantification.
- [W5] **NMUQ 2013**, Workshop: Numerical Methods for Uncertainty Quantification, Bonn University, Bonn, Germany, 13-17 May, 2013.  
**Poster presentation:** Reduced basis methods for reliability analysis.
- [W4] **SNC 2013**, Swiss Numerics Colloquium, EPFL, Lausanne, Switzerland, 05 April, 2013.  
**Contributed talk:** Accurate and efficient evaluation of failure probability for partial differential equations with random inputs.
- [W3] **WUQ 2012**, Workshop on Uncertainty Quantification, ICERM, Brown University, Providence, USA, 09-13 October, 2012.  
**Invited poster presentation:** Uncertainty quantification of human arterial network.
- [W2] **CECAM 2012**, Workshop on Reduced Basis, POD and Reduced Order Methods for model and computational reduction: towards real-time computing and visualization? EPFL, Lausanne, Switzerland, 14-16 May 2012.  
**Invited poster presentation:** Comparison of reduced basis method and stochastic collocation method for stochastic elliptic problems.
- [W1] **SNC 2012**, Swiss Numerics Colloquium, University of Bern, Bern, Switzerland, 13 April, 2012.  
**Poster presentation:** Stochastic optimal Robin boundary control problems constrained by an advection-dominated elliptic equation.