Curriculum Vitae: Thomas M. Surowiec

CONTACT INFORMATION

Sybelstr. 17
35037 Marburg, Germany

Office: +49 (0) 6421 28 25400
Mobile: +49 (0) 157 714 65 533
E-mail: thomas.surowiec@gmail.com

PERSONAL INFORMATION

Date of Birth:	July 9, 1982
Place of Birth:	Passaic, New Jersey, USA
Marital Status:	Married
Children:	Gustav Jacob (born 2018), Hugo Valentin (born 2020)
Name at Birth:	Surowiec
Citizenship:	USA

PROFESSIONAL EXPERIENCE

10.2016- **Professor (W2)** (Optimization)
Department of Mathematics and Computer Science
Philipps-Universität Marburg

04.2014-10.2016 **Assistant Professor (W1)** (Nonsmooth Optimization)
Department of Mathematics
Humboldt-Universität zu Berlin

04.2009-04.2014 **Research Associate**
Department of Mathematics
Humboldt-Universität zu Berlin

08.2006-04.2009 **Research Assistant**
Department of Mathematics
Humboldt-Universität zu Berlin

08.2004-05.2006 **Teaching Assistant**
Department of Mathematical Sciences
Stevens Institute of Technology

ADDITIONAL EXPERIENCE

01.2020- **Affiliate**
Center for Mathematics and Artificial Intelligence
George Mason University, Fairfax, VA

EDUCATION

01.2010 **Ph.D.** (doc. rer. nat.) in Mathematics
Department of Mathematics
Humboldt-Universität zu Berlin

05.2006 **Master of Science** in Stochastic Systems: Analysis and Optimization
Department of Mathematical Sciences
Stevens Institute of Technology

05.2004 **Bachelor of Science** in Mathematical Sciences
Department of Mathematical Sciences
Stevens Institute of Technology

RESEARCH INTERESTS

Stochastic Optimization
Stochastic Optimization with PDE-constraints
Optimal control of variational inequalities with partial differential operators
PDE-constrained optimization and equilibrium problems

Risk management tools in engineering optimization
Applications in digital microfluidics, semiconductors, economics and finance

RESEARCH PROJECTS

Constrained Mean Field Games: Analysis and Algorithms
PI (with M. Hintermüller) within the SPP 1962: Priority Programme "Non-smooth and Complementarity-based Distributed Parameter Systems: Simulation and Hierarchical Optimization" (07.2019 -07.2022)
(Total: Est. 360,000 USD. Marburg: Est. 180,000 USD, excluding overheads)

Generalized Nash Equilibrium Problems with Partial Differential Operators: Theory, Algorithms, and Risk Aversion
PI (with M. Hintermüller) within the SPP 1962: Priority Programme "Non-smooth and Complementarity-based Distributed Parameter Systems: Simulation and Hierarchical Optimization" Project: (07.2016 -04.2021)
(Total: Est. 380,000 USD. Marburg: Est. 190,000 USD, excluding overheads)

Mathematical Modeling, Analysis, and Optimization of Strained Germanium-Microbridges
PI (with M. Hintermüller, A. Mielke, M. Thomas) for the Einstein Center for Mathematics Project OT1: (06.2014 -06.2017)
(Total: Est. 380,000 USD. HU Berlin: Est. 180,000 USD, excluding overheads)

Post-Doc of DFG Research Center MATHEON Project C28 *Optimal Control of Phase Separation Phenomena* (05.2009-2013, 1/3 position, PI M. Hintermüller)

Post-Doc of DFG Priority Program SPP 1253 "Optimization with Partial Differential Equations" within the project *Elliptic Mathematical Programs with Equilibrium Constraints (MPECs) in Function Space: Optimality Conditions and Numerical Realization* (05.2009-05.2012, 1/3 position, PI M. Hintermüller)

Former Doctoral Candidate in DFG Graduiertenkolleg (Research Training Group) 1128 "Analysis, Numerics and Optimization of Multiphase Problems" (08.2006-08.2009, Stipend Est. 44,000 USD)

PUBLICATIONS **(Journal Articles & Book Cwhapters)**

1. *A Primal-Dual Algorithm for Risk Minimization*, to appear in Math. Prog. Ser. A (w/ D.P. Kouri)
2. *Wavelet-based approximations of pointwise bound constraints in Lebesgue and Sobolev spaces*, to appear in IMA J. Numer. Anal.
   URL: https://doi.org/10.1093/imanum (w/ S. Dahlke)
3. *An Interior-Point Approach for Solving Risk-Averse PDE-Constrained Optimization Problems with Coherent Risk Measures*, to appear in SIAM J. Optim. (w/ S. Garreis, M. Ulbrich)
4. *Risk-Averse Optimal Control of Semilinear Elliptic PDEs*, ESAIM: COCV, 26 (2020), no. 53 (w/ D.P. Kouri)
5. *Epi-Regularization of Risk Measures*, Math. Oper. Res., 45 (2020), no. 2, 774–795 (w/ D.P. Kouri)

6. *Deflation for Semismooth Equations*, Optim. Method. Softw., DOI: 10.1080/10556788.2019.1613655 (w/ P.E. Farrell, M. Croci)

7. *Optimization of a multiphysics problem in semiconductor laser design*, SIAM J. Appl. Math. 79 (2019), no. 1, 257–283. (w/ L. Adam, M. Hintermüller, D. Peschka)

8. *A Semismooth Newton Method with Analytical Path-Following for the H^1-Projection onto the Gibbs Simplex*, IMA J. Numer. Anal. 39 (2019), no. 3, 1276–1295 (w/ L. Adam, M. Hintermüller)

9. *A PDE-constrained optimization approach for topology optimization of strained photonic devices*, Optim. Eng. 19 (2018), no. 3, 521–557., (w/ L. Adam, M. Hintermüller)

10. *Numerical Optimization Methods for the Optimal Control of Elliptic Variational Inequalities*, In: Antil H., Kouri D.P., Lacasse MD., Ridzal D. (eds) Frontiers in PDE-Constrained Optimization. The IMA Volumes in Mathematics and its Applications, vol 163. (2018) Springer, New York, NY

11. *Existence and Optimality Conditions for Risk-Averse PDE-Constrained Optimization*, SIAM/ASA J. Uncertainty Quantification 6 (2), (2018) 787-815. (w/ D.P. Kouri)

12. *On the Directional Differentiability of the Solution Mapping for a Class of Variational Inequalities of the Second Kind*, Set-Valued Var. Anal 26 (3) (2018) 631–642. (w/ M. Hintermüller)

13. *Finite Horizon Model Predictive Control of Electrowetting on Dielectric with Pinning*, Interface Free Bound. 19 (1), (2017) 1-30. (w/ H. Antil, M. Hintermüller, R.H. Nochetto, and D. Wegner)

14. *A Bundle-Free Implicit Programming Approach for a Class of Elliptic MPECs in Function Space*, Math. Program. 160 (1-2), (2016), 271-305 (w/ M. Hintermüller)

15. *Risk-Averse PDE-Constrained Optimization Using the Conditional Value-At-Risk*, SIAM J. Optim., 26(1), (2016), 365-396. (w/ D.P. Kouri)

16. *Generalized Nash Equilibrium Problems in Banach Spaces: Theory, Nikaido–Isoda-Based Path-Following Methods, and Applications*, SIAM J. Optim., 25(3), (2015), 1826-1856. (w/ M. Hintermüller and A. Kämmler)

17. *Several Approaches for the Derivation of Stationarity Conditions for Elliptic MPECs with Upper-Level Control Constraints*, Math. Prog. Ser. A., 146(1-2) (2014), 555-582. (w/ M. Hintermüller and B.S. Mordukhovich)

18. *A PDE-constrained Generalized Nash Equilibrium Problem with Pointwise Control and State Constraints*, Pac. J. Opt., 9(2), (2013) 251-273. (w/ M. Hintermüller)

19. *On Regular Coderivatives in Parametric Equilibria with Non-Unique Multipliers*, Math. Prog. Ser. B., 136(1) (2012), 111-131. (w/ R. Henrion and J.V. Outrata)

20. *Analysis of M-stationary points to an EPEC modeling Oligopolistic Competition in an Electricity Spot Market*, ESAIM: COCV 18 (2012) 295-317. (w/ R. Henrion and J.V. Outrata)

21. *First Order Optimality Conditions for Elliptic Mathematical Programs with Equilibrium Constraints via Variational Analysis*, SIAM J. Optim., 21(4), (2011) 1561-1593. (w/ M. Hintermüller)

22. *On Calmness Conditions in Convex Bilevel Programming*, Applicable Analysis, 90 (2011) 951-970. (w/ R. Henrion)

23. *A Note on the Relation between Strong and M-stationarity for a Class of Mathematical Programs with Equilibrium Constraints*, Kybernetika, 46 (2010) 423-434. (w/ R. Henrion and J.V. Outrata)

24. *On the Co-Derivative of Normal Cone Mappings to Inequality Systems*, to appear in: Nonlinear Analysis: Theory, Methods & Applications (2008). (w/ R. Henrion and J.V. Outrata)

25. *Subdivision of Edges and Matching Size*, Ars Combinatoria, 84 (2007) 141 - 153. (w/ D. Bauer and E. Schmeichel)

26. *Tutte sets in graphs II: The complexity of finding Maximum Tutte sets*, Discrete Applied Math., 155 (2007) 1336 - 1343. (w/ D. Bauer, H. J. Broersma, N. Kahl, A. Morgana, and E. Schmeichel

Preprints (Submitted & In Revision)

26. *A Wavelet-Based Approach for the Optimal Control of Non-Local Operator Equations*, In revision at SIAM J. Sci. Comput. (w/ S. Dahlke, H. Harbrecht)

27. *On Quantitative Stability in Infinite-Dimensional Optimization under Uncertainty*, in Revision at Optimization Letters (w/ M. Hoffhues, W. Römisch)

28. *Measure-Valued M-Estimators: Formulation, Existence and Connections to Robust Bayesian Inference*, Submitted (w/ D.P. Kouri)

29. *Computing Multiple Solutions of Topology Optimization Problems*, In Revision at SIAM J. Sci. Comput. (w/ P.E. Farrell, I. Papadopoulos)

30. *Uncertainty Quantification in Image Segmentation using the Ambrosio-Tortorelli Approximation of the Mumford-Shah Energy*, In Revision at Journal of Mathematical Imaging and Vision (w/ M. Hintermüller, S.-M. Stengl)

Other Publications (Newsletters, Interdisciplinary, In Preparation)

32. *PDE-Constrained Optimization under Uncertainty*, SIAG/OPT Views and News, Volume 25 Number 2, December 2017 (w/ D.P. Kouri)

33. *Suturing of the laser resection area is recommended over a depth of 2 cm in an experimental porcine lung model*, Journal of Thoracic Disease 10(9):5339-5345 (w/ A. Kirschbaum, A. Pehl, A. Gockel, D.K. Bartsch, und N. Mirow)

34. *Local lung coagulation post resection - an ex-vivo porcine model*, submitted to Lasers in Medical Science (w/ A. Kirschbaum, A. Pehl, T. Wiesmann, D.K. Bartsch, N. Mirow)

35. *Explicit Stationarity Conditions and Solution Characterization for Equilibrium Problems with Equilibrium Constraints*, Doctoral Thesis (doc. rer. nat. Mathematics), January 2010, Humboldt-Universität zu Berlin.

36. *Stability of Stochastic Optimization Problems with Stochastic Dominance Constraints*, Master's Thesis (M.S. Stochastic Systems: Analysis and Optimization), May 2006 Stevens Institute of Technology.

PRESENTATIONS Invited (Conferences, Colloquia, & Seminars)

1. *Risk-Averse Optimization of Random Elliptic Partial Differential Equations: Modeling, Theory, and Numerical Solution* Mathematisches Kolloquium am Fachbereich Mathematik, TU Darmstadt (virtual, January 2021)

2. *A Primal-Dual Algorithm for Risk Minimization in PDE-Constrained Optimization* CRM Applied Mathematics Seminar, McGill University (virtual, November 23, 2020)

3. *Stability Analysis for a Class of Risk-Neutral PDE-Constrained Optimization Problems* Uncertainty Management and Machine Learning in Engineering Applications, Stony Brook University (virtual, November 16, 2020)

4. *Optimization of Elliptic PDEs with Uncertain Inputs: Basic Theory and Numerical Stability* Center for Mathematics and Artificial Intelligence (CMAI) at George Mason University, Fairfax VA USA (virtual. Talk and slides available at `http://cmai.science.gmu.edu/index.php/events/#colloquium`)

5. *An Interior-Point Approach for Risk-Averse PDE-Constrained Optimization* l'Institut de Mathématiques de Toulouse Applied Analysis Colloquium (postponed due to COVID-19)

6. *Solving Risk-Averse PDE-Constrained Optimization Problems via an Interior-Point Approach* GDO2020, DIAG, Rome, Italy. February 24-26, 2020

7. *An interior-point approach for a class of risk-averse PDE-constrained optimization problems* Workshop on PDE Constrained Optimization under Uncertainty and Mean Field Games, WIAS, Berlin, Germany, January 28-30, 2020

8. *A New Primal-Dual Approach for Solving Risk-Averse PDE-Constrained Optimization Problems* RICAM Workshop "Optimization and Inversion under Uncertainty" Linz, Austria 11.2019

9. *A primal-dual algorithm for risk-averse PDE-constrained optimization*
ICCOPT Berlin 09.2019

10. *PDE-Constrained Optimization under Uncertainty*
15th International Conference on Stochastic Programming Trondheim 08.2019

11. *A primal-dual algorithm for risk-averse PDE-constrained optimization*
ICIAM Valencia 07.2019

12. *A primal-dual algorithm for PDE-constrained optimization und uncertainty*
Erwin Schrödinger Institute Workshop on "Modern Maximal Monotone Operator Theory: From Nonsmooth Optimization to Differential Inclusions" 03.2019

13. *A primal-dual algorithm for risk minimization*
GAMM Annual Meeting Wien 02.2019

14. *Perspectives on PDE-Constrained Optimization under Uncertainty*
Oberwolfach Workshop 1834 "New Directions in Stochastic Optimisation" 08.2018

15. *Smoothing Techniques for PDE-Constrained Optimization under Uncertainty*
SIAM UQ, Garden Grove, CA, USA, 04.2018

16. *Risk-Averse Optimal Control of PDE-Systems with Random Parameters* Oberwolfach Workshop 1815 "Challenges in Optimal Control of Nonlinear PDE-Systems" 04.2018

17. *Regularization Techniques for PDE-Constrained Optimization under Uncertainty*
GAMM Annual Meeting, Munich, Germany, 03.2018

18. *Introduction to PDE-Constrained Optimization under Uncertainty*
Short course as part of the spring school "New Directions in PDE Constrained Optimisation" at the IIT Bombay, Mumbai, India, 03.2018

19. *Aspects of Variational Analysis in Risk-Averse PDE-Constrained Optimization* Third Central European Set-Valued and Variational Analysis Meeting CESVVAM, TU Chemnitz, 11.2017

20. *Risk-Averse Optimization of Partial Differential Equations with Random Inputs*
Rhein-Main Arbeitskreis Mathematics of Computation, Universität Mannheim, 07.2017

21. *Risk-Averse Optimization of Partial Differential Equations with Random Inputs*
SIAM Conference on Optimization, Vancouver, Canada, 05.2017

22. *Risk-Averse Optimization of Partial Differential Equations with Random Inputs*
Numerical Analysis Seminar, University of Oxford, 04.2017

23. *Risk-Averse PDE-Constrained Optimization: Analysis, Optimality, and Numerical Solution* University Seminar Series at Stevens Institute of Technology, 03.2017

24. *Risk-Averse PDE-Constrained Optimization: Analysis, Optimality, and Numerical Solution* Applied Math and Analysis Seminar, Duke University, 03.2017

25. *Risk-Averse PDE-Constrained Optimization*
SIAM CS&E, Atlanta, Georgia, 02.2017

26. *Risk Averse PDE-Constrained Optimization using Risk Measures*
Seminar of the IGDK Munich-Graz at the TU München 09.2016

27. *Risk Averse PDE-Constrained Optimization using Coherent Measures of Risk*
ICCOPT 2016, Tokyo, 08.2016

28. *Tutorial on Optimal Control of Variational Inequalities*
IMA Workshop "Frontiers in PDE-Constrained Optimization", Minneapolis, 06.2016

29. *Handling non-smooth risk measures in risk-averse PDE-constrained optimization* WIAS - PGMO Workshop Nonsmooth and Stochastic Optimization with Applications to Energy Management, Berlin, 05.2016

30. *Managing Uncertainty in PDE-Constrained Optimization Using Risk Measures*
SIAM UQ 2016, Lausanne, 04.2016

31. *A Model Predictive Control Approach for a Time-Dependent Free-Boundary Problem in Electro-microfluidics*
Seminar of the Automatic Control Lab. ETH Zurich, 01.2016

32. *Analysis and Numerics of Optimization Problems with Variational Inequality Constraints*
ISMP 2015, Pittsburgh, 07.2015

33. *Instantaneous Control of a Model of Electrowetting on Dielectric with Complementarity-based Contact-Line Pinning*
IFIP TC 7, Sofia-Antipolis, 06.2015

34. *Optimal Control of Elliptic Variational Inequalities: Optimality Conditions and Numerical Methods*, Numerical Analysis Seminar, University of Maryland College Park, College Park, Maryland, USA, 04.2015

35. *On risk-averse PDE-constrained optimization using convex risk measures inspired by conditional value-at-risk*
SIAM Conference on Computational Science and Engineering, Salt Lake City, 04.2015

36. *Path-Following Methods for Generalized Nash Equilibrium Problems in Banach Spaces*, Universität der Bundeswehr München, Germany, 12.2014

37. *Nonsmooth analysis and implicit programming approaches for optimal control problems governed by variational inequalities of the first and second kind*,
Bilevel Optimal Control, Heidelberg, 10.2014

38. *Solving optimal control problems governed by variational inequalities of the first and second kind via non-smooth analysis and bundle-free implicit programming approaches*, Applied and Computational Math Seminar, George Mason University, Fairfax, Virginia, USA, 09.2014

39. *On the Optimal Control of a Class of Variational Inequalities of the Second Kind*
SIAM Conference on Optimization, San Diego, 05.2014

40. *Bundle-Free Implicit Programming Approaches for the Optimal Control of Variational Inequalities of the First and Second Kind*,
6th International Conference on Complementarity Problems, Berlin, 08.2014

41. *On a class of generalized Nash equilibrium problems in Banach space with applications to multiobjective PDE-constrained optimization*,
ICCOPT 2013, Lisbon, 08.2013

42. *A PDE-Constrained Generalized Nash Equilibrium Problem: Analysis and Numerics*, Mathematical Sciences Seminar, Stevens Institute of Technology, Hoboken, 09.2012

43. *A PDE-Constrained Generalized Nash Equilibrium Problem with Pointwise Control and State Constraints*,
ISMP 2012, Berlin, 08.2012

44. *A Bundle-Free Implicit Programming Approach for the Optimal Control of Variational Inequalities*,
Free Boundary Problems (FBP) 2012, Chiemsee, 06.2012

45. *On the Derivation of Optimality Conditions for Elliptic MPECs via Variational Analysis*
IFIP TC 7, Berlin, 09.2011

46. *A Bundle-Free Implicit Programming Approach for a Class of Elliptic MPECs*,
OR 2011, Zürich, 08.2011

47. *Mathematical Programs with Equilibrium Constraints in Function Spaces*, Optimization and Applications Seminar, ETH Zürich and University of Zürich,05.2011

48. *Derivation of Optimality Conditions for Elliptic MPECs via Variational Analysis*, SIOPT 2011, Darmstadt, 05.2011

49. *Bundle-Free Implicit Programming for Elliptic MPECs*, Seminar des Fachgebiets Optimierung bei Partiellen Differentialgleichungen, Technische Universität Berlin, 01.2011

50. *Strong Stationarity Conditions for Elliptic Mathematical Programs with Equilibrium Constraints*,
PARAOPT X, Karlsruhe, 09.2010

51. *Analysis of M-stationary Points to an Electricity Spot Market EPEC*,
ISMP 2009, Chicago, 08.2009

Contributed

52. *Some Structural Properties and Stationarity of Solutions to a Stochastic Spot Market EPEC*, Conference on Optimization and Practices in Industry 2008, Paris, France 11.2008

53. *Analysis of M-stationary Points and Solutions to an SEPEC Modeling Oligopolistic Competition*, CARIPLO Workshop on Numerical Linear and Nonlinear Stochastic Programming, Edinburgh, Scotland, UK 09.2008

54. *On the Coderivative of the Normal Cone Mapping to Non-Polyhedral Sets*, ECMI 2008, London, UK 07.2008

Research Visits

University of Oxford, September 2018
Sandia National Laboratories, (Albuquerque), April 2018
University of Oxford, April 2017
Stevens Institute of Technology, March 2017
Duke University, March 2017
TU München, September 2016
Sandia National Laboratories, (Albuquerque), September 2016
University of Maryland College Park, March 2015
George Mason University, March 2015
Sandia National Laboratories, (Albuquerque), March 2015
University of Maryland College Park, September 2014
George Mason University, September 2014

Review Activities

I regularly write reviews for SIAM J. on Optimization, SIAM J. on Control and Optimization, Optimization, Optimization Methods and Software, Set-Valued and Variational Analysis, Control Optimization and Calculus of Variations, Mathematical Programming, SIAM J. on Scientific Computing, Numerische Mathematik, German Research Foundation (DFG), Austrian Science Fund (FWF)

Conference Organization

Member of Organizing Committee for the Rhein-Main-Arbeitsrkeis "Mathematics of Computation" (biannual colloquia for numerics, stochastics, and optimization)

Co-organizing A BIRS Workshop: Optimization under Uncertainty: Learning and Decision Making with C. Schillings, J. Royset, L. Ruthotto. February 7-12, 2021, Banff Canada (virtual due to COVID-19)

Cluster Chair for Complementarity and Variational Inequalities at the ICCOPT 2019 in Berlin (with M. Ferris)

Co-organized a minisymposium on *PDE-constrained Optimization Under Uncertainty* at the ICCOPT 2019 in Berlin(with H. Antil, D.P. Kouri, M. Ulbrich, S. Ulbrich)

Co-organized a minisymposium on *PDE-Constrained Optimization under Uncertainty and Applications* at the 15th International Conference on Stochastic Programming in Trondheim, Norway. (with D.P. Kouri)

Organized the fourth annual *Central European Set-Valued and Variational Analysis Meeting* at Philipps-Universität Marburg, November 2018.

Co-organized a minisymposium on *Exploiting Structure in Optimization under Uncertainty* at the SIAM Conference on Uncertainty Quantification 2018 in Garden Grove, California, USA. (with H. Antil, D.P. Kouri, D. Ridzal)

Co-organized the spring school on *New Directions in PDE Constrained Optimisation* at the IIT Bombay, Mumbai, India, March 2018. (with H. Antil, A. Kumar, N. Nataraj)

Co-organized a minisymposium on *Risk-Averse Optimization for Engineering Applications* at the SIAM Conference on Optimization, Vancouver, Canada, May 2017. (with D.P. Kouri, S. Uryasev)

Co-organized a minisymposium on *Stochastic PDE-Constrained Optimization and Applications* at the SIAM Conference on Computational Science and Engineering, Atlanta, George, USA, March 2017. (with D.P. Kouri)

Co-organizer of ECMathColloquia 1-3 together with C. Hartmann, C. Gräser, R. Kruse (05.06.2015 “Uncertainty Quantification”, 01.08.2016 “Geometric PDEs and free boundary problems", 22.04.2016 “Sparsity: Statistics, Optimization and Applications?)

Co-organized a minisymposium on *Mathematical Programs with Equilibrium Constraints* at the EUCCO Conference 2016 in Leuven, Belgium. (with G. Wachsmuth)

Organized a two-part minisymposium on *Optimization of Non-smooth and Complementarity-based Systems with PDE-constraints* at the ISMP 2015 Conference in Pittsburgh.

Co-organizing a two-part minisymposium on *Optimization and Control of Nonsmooth and Complementarity-Based Systems: Theory and Numerics* at the IFIP TC7 Conference 2015 in Sophia-Antipolis. (with G. Wachsmuth)

Co-organized a two-part minisymposium titled *Variational Inequalities and MPECs in Function Space: Analysis, Numerics, and Applications* at the IFIP TC7 Conference 2011 in Berlin. (with M. Hintermüller)

Co-organized a three-part minisymposium titled *(Quasi)-Variational Inequalities, Complementarity Problems and MPECs* at the SIAM Conference on Optimization 2011 in Darmstadt. (with M. Hintermüller)

Co-organized the *International Conference on Complementarity Problems* at HU Berlin August, 2014. (with M. Hintermüller)

Teaching Experience

Philipps-Universität Marburg, Marburg, Germany

Lectures

Linear Programming, WS 20/21
Convex Analysis, WS 20/21
Mathematical Optimization for Machine Learning, SS 20
Nonlinear Optimization, SS 20
Linear Programming, WS 19/20
Stochastic Optimization, WS 19/20
Nonlinear Optimization, SS 19
PDE-Constrained Optimization, SS 19
Linear Programming, WS 18/19
Convex Analysis, WS 18/19
Linear Programming, WS 17/18
Stochastic Optimization, WS 17/18
Nonlinear Optimization, SS 17
PDE-Constrained Optimization, SS 17
Linear Programming, WS 16/17
Convex Optimization in Banach Spaces, WS 16/17

Seminars and Praktika

Praktikum Numerics and Optimization WS 20/21
Seminar Numerics and Optimization SS 20
Praktikum Numerics and Optimization SS 20
Seminar Optimization WS 19/20
Praktikum Numerics and Optimization WS 16/17 - SS 20
Oberseminar Numerics and Optimization WS 116/17 - 19/20
Seminar Numerics and Optimization WS 16/17- SS 18, SS 20

Humboldt-Universität zu Berlin, Berlin, Germany

Lectures

Stochastic Optimization, SS 16
Mathematical Programms with Equilibrium Constraints, W 15/16
Theory and Numerics of Nonsmooth Optimization, S 15
Real Analysis for Physicists, W 14/15
Variational Inequalities, S 14
Nonlinear Optimization, S 13

Recitations

Linear Algebra, W 12/13
Real Analysis I, S 12
Real Analysis I, W 11/12
Real Analysis II, S 11
Applied Mathematics for Computer Scientists, W 10/11
Real Analysis II, S 10
Real Analysis I, W 09/10

Stevens Institute of Technology, Hoboken, New Jersey USA

Recitations

Calculus IV, Spring Semester (SpS) 06
Calculus I, Fall Semester (FS) 05/06
Calculus II, SpS 05
Calculus I, FS 04/05

Advising & Supervision

Philipps-Universität Marburg, Marburg, Germany

Supervision

Patrick Stremme, Examensarbeit, 01.2018
Fynn Adam, B.S. Mathematics, 04.2018
Andrej Hildebrand, B.S. Mathematics, (tentative)
Kai Alexander Stelter, B.S. Industrial Mathematics, 08.2018
Sarah Heibutzki, B.S. Mathematics, 08.2018
Bianca Raffelsiefer, M.S. Industrial Mathematics, 06.2018
Mario Hoffhues, M.S. Industrial Mathematics, 12.2018
Masume Hashemi, M.S. Mathematics, 05.2019
Kai Alexander Stelter, M.S. Mathematics, 02.2020
Mike Theiß, M.S. Mathematics, 11.2019
Ina Horst, B.S. Industrial Mathematics 11.2019
Simon Schneider, B.S. Industrial Mathematics 11.2019
Stefan Störmer, B.S. Mathematics 12.2020 (tentative)
Verena Schmerer B.S. Mathematics 10.2020
Andreas Mehring B.S. Mathematics 05.2021 (tentative)
Paulina Hussmann B.S. Mathematics 11.2020
Maximilian Born B.S. Industrial Mathematics 11.2021
Bogdan Levagin, M.S. Data Science 06.2020 with DB Analytics
Anton Broeseel, B.S. Mathematics 05.2021 (tentative)
Sarah Heibutzki, M.S. Mathematics, 06.2021 (tentative)
Mike Theiß, PhD Mathematics, 11.2022 (tentative)
Deborah Gahururu, PhD Mathematics, 06.2021 (tentative)

Second Reviewer

Martina Seibert, M.S. Mathematics, 2017
Sophie Döpp, B.S. Mathematics, 2017
Melanie Herchenhahn, B.S. Mathematics, 2017
Stella Joswig, B.S. Mathematics, 2017
Christoph Kötzsche, B.S. Mathematics, 2017
Cinja Kollmus-Heege, B.S. Mathematics, 2017
Anne Kopsch, B.S. Mathematics, 2017
Fabian Lötschert, B.S. Mathematics, 2017
Christoph Schwab, B.S. Mathematics, 2017
Mike Theiß, B.S. Mathematics, 2017
Dorian Vogel, B.S. Mathematics, 2017
Vania Zhang, B.S. Mathematics, 2017
Ann-Christin Schmidt, B.S. Mathematics, 2018
Alexander Michel, B.S. Mathematics, 2018
Hilke Isabell Stibbe, Ph.D. Mathematics, 9.2019

Humboldt-Universität zu Berlin, Berlin, Germany

Supervision and Second Reviewer

Julius Seiberl, B.S. Mathematics (with M. Hintermüller), 11.2012
Daniel Zechlin, B.S. Mathematics (with M. Hintermüller), 05.2012
Jennifer Rasch, M.S. Mathematics (with M. Hintermüller), 07.2012
Tobias Keil, M.S. Mathematics (with M. Hintermüller), 06.2013
Adrian Kämmler, M.S. Mathematics (with M. Hintermüller), 01.2014
Andrea von Schirp, M.S. Mathematics (with M. Hintermüller), 06.2014
Philipp Heltzel, B.S. Mathematics, 02.2015
Jesse Scherwitz, B.S. Mathematics (with C. Tischendorff), 01.2015
Magdalena Nöth, M.S. Mathematics, 05.2016
Steven-Marian Stengl, M.S. Mathematics, 08.2016

Departmental Work

Administration

Faculty Council Member (Elected Position) WS 20-
Student Counselor for B.S. and M.S. in Industrial Mathematics WS 20-
Acting Director of Examination Board:
Mathematics and Industrial Mathematics WS 18/19–20
Director of Examination Board:
Industrial Mathematics WS 18/19–20

Committees

Hiring Committees: 2019 (Marburg), 2017 (Marburg), 2015 (HU Berlin), 2013 (HU Berlin).
Chair of PhD Committees:
C. Hartmann 2018 (Marburg)
L. Pfeiffer 2018 (Marburg),
F. Eichenauer 2016 (HU Berlin)
Reviewer of PhD Theses:
H. Stibbe 2019 (Marburg)
A. Hempel, 2016 (ETH Zurich)

R. Patho 2014 (Charles University Prague)
J. Becker, 2021 (tentative, TU Darmstadt)
M. Stengl 2021 (tentative, HU Berlin)

Stipends, Awards, Etc.

Stipends

Member of DFG Research Training Group 1128 “Multiphase Problems”, 08.2006-05.2009
Teaching Assistantship, Department of Mathematics, Stevens Institute of Technology, 08.2004-05.2006

Scholarships

ECE/NSF Undergraduate Research Scholarship, 2002-2003
The Charles L. Petchek Scholarship, 2003
Stevens Technogenesis Summer Research Program, 06.2003-08.2003
Stevens Technogenesis Summer Research Program, 06.2002-08.2002
Stevens Institute of Technology University Scholarship, 2000-2004

Languages

English (native speaker)
German (fluent)
Italian (basic knowledge)