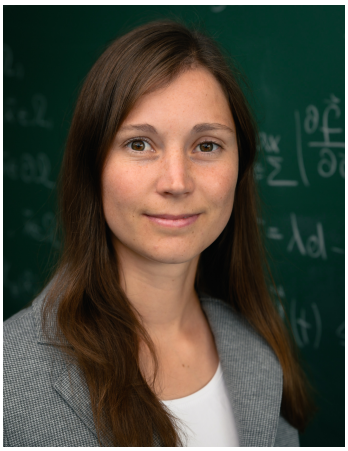
Curriculum Vitae

Dr. Cordula Reisch

Personal

Name	Dr. rer. nat. Cordula Reisch
Date of birth	09. June 1991
Place of birth	Göttingen, Germany
Address	Wittekindstraße 4a, 38114 Braunschweig
E-Mail	reisch.cordula@gmail.com
Website	`https://creisch.github.io/`
ORCID	0000-0003-1442-1474
Language	German (native), English (fluent), French (good command)



Research interest

Dynamical systems, reaction-diffusion equations, mathematical modeling using ordinary and partial differential equations, qualitative solution behavior, hierarchies of models and model selection.

Academic Experience

from 02/2025	PostDoc in the group of Ansgar Jüngel at the Institute for Analysis and Scientific Computing, Vienna University of Technology, Austria
10/2024 – 01/2025	Professorship: Complexity of Life (COLIBRI Research professor), Karl-Franzens-University of Graz, Austria
12/2019 – now	PostDoc at the Institute for Partial Differential Equations, TU Braunschweig (on leave since 10/2024 and 10/2021 – 03/2022, part-time from 04/2022 – 09/2022)
10/2021 – 09/2022	temporary professorship for mathematics and informatics, HAWK Göttingen
10/2015 – 12/2019	researcher at the Institute for Partial Differential Equations, TU Braunschweig
08/2013 – 09/2013	Internship at Siemens AG, Railway Automation, Research & Development: Analysis of redundancies and the probability of system failure.

Education

12/2019	PhD in Mathematics (Dr. rer. nat.) (summa cum laude), TU Braunschweig „Reaction diffusion equations and model families for analyzing inflammations“
06/2016	Master of Science Mathematics (1,1), TU Braunschweig „Reaction diffusion equations, asymptotics of solutions and chronic inflammation“
09/2015	Master of Education (1,2), TU Braunschweig „Quantum cryptography as a topic for physics class at school“
11/2013	Bachelor of Science Mathematics and physics (1,6), TU Braunschweig „Hierarchical model families for fusion of liposomes“
06/2010	Abitur (1,6), Grotefend Gymnasium Hann. Münden

Awards, honors & third-party funding

2024	– **Co-proposer** of the DFG research proposal *Linking tree hydrodynamic traits, ecohydrological processes, and wildfire propagation: Exploratory modelling for theory development*, currently under review.
	– **DAAD Travel Award** for Equadiff conference.
2023	– **DAAD Kurzstipendium**: Four months research stay at University of Graz for the project *Nonlocality-driven instabilities in nonlinear reaction-diffusion systems* with Dr. C. Soresina and Prof. Dr. B. Tang
	– **Co-proposer** in the project *Simulation and dynamical analysis of wildfire propagation using high resolution computational tools (firedyn)* with A. Navas-Montilla and P. Diaz Benito (University of Zaragoza), founded by the Spanish Research Ministry, 20.645€
	– **Grant**: *inter-fire: Interdisciplinary research in ecological, numerical, and mathematical analysis of wildfire hazards*, Seed Funding Program TU Braunschweig 2022, Interdisciplinary Collaboration, 14.420€ (PI), in cooperation with Prof. Dr. I. Özgen-Xian and Prof. Dr. B. Schröder-Esselbach, Institute of Geoecology
	– **Grant**: *Adaptive mesh criteria for highly nonlinear partially saturated concrete*, Seed Funding Program TU Braunschweig 2022, Interdisciplinary Collaboration, 15.000€ (PI), in cooperation with Dr. K.-A. Meyer, Institute of Applied Mechanics
2022	– involved in the application of an interdisciplinary Research Training Group (DFG, German Research Foundation) at the TU Braunschweig *Certification of Modeling processes* with a proposed PhD project
	– positive evaluated research grant (DFG) for the automation of model selection for rarely quantified applications (in revision).
2020	**Heinrich-Büssing Award**
	Award for an outstanding dissertation, 5000€, Braunschweigischer Hochschulbund.
2019	– **DAAD Travel Award** for SIAM Conference on Partial Differential Equations.
	– **Best Poster Award**: Women in PDE Workshop, Vienna.
2018, 2019	Nominated for good teaching, **LehrLeo**
	for the exercise class in Analysis 3 and Partial differential equations
2015	**Award for excellent performance**, TU Braunschweig.
2010	**Award for excellent performance during school**, TU Braunschweig.

Research

17 peer-reviewed publications, one dissertation thesis, two text books on applied mathematics, seven submitted preprints. Various talks and posters on conferences and workshops, (co-)organization of five workshops.

Preprints

[P7] Reisch, C., Tran, B.-N., Yang, J.: Rigorous fast signal diffusion limit and convergence rates with the initial layer effect in a competitive chemotaxis system, 2405.17392[math.AP], submitted 2025.

[P6] Navas-Montilla, A., Reisch, C., Diaz, P. Özgen-Xian, I.: Modeling wildfire dynamics through a physics-based approach incorporating fuel moisture and landscape heterogeneity, arXiv:2412.04517, submitted 2024.

[P5] Nieding, L., Reisch, C., Navas-Montilla, A., Langemann, D.: Impact of topography and combustion functions on fire front propagation in an advection-diffusion-reaction model for wildfires, arXiv:2410.02837, accepted for publication 2024.

[P4] Saha, T.S., Heinlein, A., Reisch, C.: Towards Model Discovery Using Domain Decomposition and PINNs, arXiv:2410.01599[math.NA, cs.LG], accepted for publication 2024.

[P3] Mitra, K., Peng, Q., Reisch, C.: Studying wildfire fronts using advection-diffusion-reaction models, arXiv:2401.17468 [math.AP], accepted for publication 2024.

[P2] Reisch, C., Burmester, H.: Model selection focusing on longtime behavior of differential equations, arXiv:2312.05128 [math.NA], accepted for publication 2024.

[P1] Reisch, C., Ranocha, H.: Modeling still matters: a surprising instance of catastrophic floating point errors in mathematical biology and numerical methods for ODEs, arXiv:2304.02365 [math.HO], submitted 2023, accepted for publication in SIAM Review.

Publications with peer review

[17] Reisch, C., Nickel, S., Tautenhahn, HM.: Building up a model family for inflammations, *J Math Biol* **89**, 29 (2024) doi: 10.1007/s00285-024-02126-4.

[16] Reisch, C., Navas-Montilla, A., Özgen-Xian, I.: Analytical and numerical insights into wildfire dynamics: Exploring the advection-diffusion-reaction model, *Comput Math Appl* **158**, 179-198 (2024) doi: 10.1016/j.camwa.2024.01.024

[15] Allouhi, A., Benzakour Amine, A., Reisch, C.: Multi-objective optimization of solar energy systems for electricity and hot water generation in collective residential buildings considering the power-to-heat concept. *Appl Therm Eng* **230**, 120658 (2023) doi: 10.1016/j.applthermaleng.2023.120658

[14] Reisch, C., Langemann, D.: Longterm existence of solutions of a reaction diffusion system with non-local terms modeling an immune response - an interpretation-orientated proof. *Partial Differ Equ Appl Math* (2022) doi: 10.1016/j.padiff.2022.100446

[13] Reisch, C., Langemann, D.: Automative model selection and model certification for reaction-diffusion equations. IFAC-PapersOnLine **55**(20), 73-78 (2022) doi: 10.1016/j.ifacol.2022.09.074

[12] Langemann, D., Reisch, C., Römer, U.: Model certification problem for processes. IFAC-PapersOnLine **55**(20), 193-198 (2022), doi: 10.1016/j.ifacol.2022.09.094

[11] Reisch, C.: Modelling health impacts of hepatitis – model selection and treatment plans. *Math Comput Model* **28**(1), 28-54 (2022) doi: 10.1080/13873954.2021.2020296

[10] Nolte, M., Schubert, R., Reisch, C., Maurer, M.: Sensitivity Analysis for Vehicle Dynamics Models - An Approach to Model Quality Assessment for Automated Vehicles. *IEEE: Intelligent Vehicles* (2020) doi: 10.1109/IV47402.2020.9304801

[9] Reisch, C., Langemann, D.: Entropy functionals for finding requirements in hierarchical reaction-diffusion models for inflammations. *Math Meth App Sci*, 1-17 (2020) doi: 10.1002/mma.6682

[8] Reisch, C., Langemann, D.: Chemotactic effects in reaction-diffusion equations for inflammations. *J Biol Phys* **45**, 253-273 (2019) doi: 10.1007/s10867-019-09527-3

[7] Reisch, C., Langemann, D.: Modelling the chronification tendency of liver infections as evolutionary advantage. *Bull Math Biol* **81**, 4743-4760 (2019) doi: 10.1007/s11538-019-00596-y

[6] Dierkes, J., Reisch, C., Langemann, D.: *Epistemology and mathematical modeling – formalizing the modeling process in the natural sciences.* Focus in Epistemology Research, Nova Science Publisher, 2019

[5] Peters, A., Reisch, C., Langemann D.: LTP or LTD? Modeling the influence of stress on synaptic plasticity. *eNeuro* **5**(1) (2018) doi: ENEURO.0242-17.2018

[4] Reisch, C., Schrot, I.: Hierarchies of Modeling Infections: Comparison of Reaction-Diffusion System and Cellular Automaton, *ARGESIM Report* **55**, 49-50, Proc. MathMod2018 (2018) doi: 10.11128/arep.55.a55236

[3] Langemann, D., Reisch, C., Dierkes, J.: A mathematical model of modelling - epistemology and natural sciences, *IFAC-PapersOnLine* **51**(2), 499-504, Proc. MathMod2018 (2018) doi: 10.1016/j.ifacol.2018.03.084

[2] Reisch, C., Franz, T.: Quantenkryptographie. *PdN - Physik in der Schule*, **1**(65), 11-16 (2016).

[1] Reisch, C., Franz, T.: Quantenkryptographie als Thema für den Physikunterricht. *PhyDid. B*, DD 05.20 (2016)

Thesis

[T1] Reisch, C.: *Reaktions-Diffusions-Gleichungen und Modellfamilien zur Analyse von Entzündungsprozessen.* Cuvillier, 2020.

Text books

[T2] Langemann, D., Reisch, C.: *So einfach ist Mathematik – Mathematische Modellierung.* Berlin: Springer Spektrum, in press.

[T1] Langemann, D., Reisch, C.: *So einfach ist Mathematik – Partielle Differenzialgleichungen für Anwender.* Berlin: Springer, 2018.

Miscellaneous

[M1] Cheng, X. et al.: Data-driven Parameters Tuning for Predictive Performance Improvement of Wire Bonder Multi-body Model, Mathematics in Industry Reports (MIIR), 2024. doi: 10.33774/miir-2024-f3zf3

Research visits

07/2024	research visit with Dr. A. Navas Montilla and Dr. P. Diaz Benito, University of Zaragoza
09–12/2023	research stay (DAAD Postdoc program) with Prof. Dr. B. Tang and Dr. C. Soresina, University of Graz
05/2023	research visit with Dr. A. Navas Montilla, University of Zaragoza
10/2022	research visit with Prof. Dr. B. Tang and Dr. C. Soresina, University of Graz
10/2019	research visit with Prof. Dr. A. Jüngel, TU Vienna

Organization of workshops

2025⋆	11th GACM Colloquium in Braunschweig, chair and organizer
2023	Workshop *Interdisciplinary Research in Ecological and Mathematical Analysis of Wildfire Hazards*, 16.-17.11.2023, in Braunschweig, organizer.
2023	TU Braunschweig internal Workshop *Numerical aspects of porous media*, 16.10.2023, in Braunschweig, organizer.
2022	AfriCon AI 2022: African Conference on Artificial Intelligence, Advisory Committee.
2018	Workshop organization in the trilateral project „Modeling, Analysis, and Approximation Theory towards applications in tomography and inverse problems“, financed by VW-Stiftung, 3.-7.02.2018 in Braunschweig, Germany.

Talks and posters

2025 – Dynamical Systems Applied on Biology and Natural Sciences (DSABNS), Naples, 21.01.2025: *Influence Of Patterned Vegetation On Wildfire Spread*

2024 – COLIBRI Focus workshop (Rules of disorder and pattern formation in living systems), invited speaker, 23.11.2024: *Pattern formation in non-local inflammation models*

– Seminar talk at the University of L'Aquila, 06.11.2024: *Analytical and numerical investigation of an advection-diffusion-reaction wildfire model*

– COLIBRI Seminar, University of Graz, 25.10.2024.: *Gaining insight from hierarchical model families in complex systems*

– Complexity of Life 2024, Graz, 24.09.2024: *Modeling liver inflammations with reaction diffusion equations*

– VHP 2024, Stuttgart, 04.09.2024: *Towards multi-scale model selection for rare data applications*

– ECMTB 2024, Toledo, 24.07.2024: *Nonlocality-induced instabilities in reaction diffusion systems arising from modeling inflammation*

– Equadiff 2024, Karlstad, 13.06.2024 invited talk in the minisymposium: Analysis of nonlocal PDEs, *Nonlocality-induced instabilities in reaction diffusion systems*

– Vienna Bio-PDE Days 2024, Vienna, 28.02.2024: *Nonlocality-induced instabilities in reaction diffusion systems*

– GAMM Annual Meeting, Magdeburg, 21.03.2024: *Towards multi-scale model selection for rare data applications in life sciences*

– Workshop Bio-PDE Days Vienna, 28.02.2024: *Nonlocality-induced instabilities in reaction diffusion systems*

– Workshop Data driven computing and modeling in biology, Journées numériques de Besançon 2024, 29.01.2024: *Model selection focusing on longtime behavior as qualitative data*

2023 – Applied Analysis Seminar, University of Graz, 19.12.2023: *Nonlocality induced instabilities in reaction diffusion systems*

– Workshop Interdisciplinary Research in Ecological and Mathematical Analysis of Wildfire Hazards, 16.11.2023, Braunschweig: *Exploring an advection-diffusion-reaction wildfire model analytically and with simulations*

– Workshop Numerical aspects of porous media, 16.10.2023, Braunschweig: *Towards adaptive mesh criteria for highly nonlinear partially saturated concrete*

– ÖMG Tagung 2023, Graz, 21.09.2023, invited talk in the minisymposium: PDEs and Mathematical Biology, *Spatially heterogeneous reaction-diffusion equations arising from applications*

– Modelling Diffusive Systems 2023: Theory & Biological Applications, ICMS, Edinburgh, 11.09.2023: *Spatial heterogeneity in reaction diffusion equations* (poster)

– ENUMATH 2023, Lisbon, PT, 05.09.2023, invited talk in the minisymposium: Robust numerical methods for nonlinear and coupled diffusion problems in biology, *Model selection for reaction-diffusion equations using rare data in life-sciences*

– SIAM Conference on Mathematical & Computational Issues in the Geosciences, Bergen, N, 20.06.2023: *Hierarchical modeling of wildfire spread* (poster)

– Seminar des Institute Mecánica de Fluidos, Universität Zaragoza, ESP, 05.05.2023: *Examples of gaining insight from hierarchical model families*

– Conference on Mathematical Population Dynamics, Ecoepodemiology and evolution, CIRM, Luminy, F, 27.04.2023: *A hierarchical model family for control strategies of mosquito spread*

– SIAM Conference on Computational Science and Engineering, Amsterdam, NL, 03.03.2023, invited talk in the minisymposium: Data-Driven Methods in Computational Biomechanics, *Model Selection Using Rare Data in Life-Sciences*

– Study Group with Industry, Groningen, NL, 03.02.2023, Group results presentation: *ASMPT: Data-driven Parameters Tuning for Predictive Performance Improvement of Wirebonder Multi-body Model*

2022 – Lothar-Collatz-Kolloquium, University of Hamburg, 20.10.2022: *Analytical results for reaction-diffusion equations and their impact on modeling inflammation*

– Women in PDEs, Karlsruhe, 13.10.2022: *Modeling Liver Infections with Reaction-Diffusion Equations* (poster)

– Applied Analysis Seminar, University of Graz, 04.10.2022: *Families of reaction diffusion equations for modeling hepatitis*

– European Conference of Mathematical and Theoretical Biology, Heidelberg, 19.09.2022, Mini-Symposium: Multi-Scale phenomena in biology: modelling and analysis: *Modeling liver infections with reaction-diffusion equations*

– Nonlinear diffusion equations and Applications in Biology, Workshop, Nijmegen, 06.07.2022: *Influence of chemotactic effects on chronic inflammations*

– Seminar Analysis, JG University Mainz, 06.05.22: *Modeling liver infections with reaction diffusion equations*

– Hausdorff School: Diffusive Systems, Bonn, 08.04.2022, *Reaction-diffusion equations for modeling liver infections*

– Applied Analysis Seminar, University of Graz, 22.03.2022: *Families of reaction diffusion equations for modeling hepatitis*

2019 – SIAM Analysis on Partial Differential Equations, La Quinta, 14.12.2019, USA: *Hierarchical Model Family of Reaction-Diffusion Equations for Liver Infections*

– Women in PDE Workshop, Vienna, 17.06.2019: *Modeling Liver Infections with Reaction-Diffusion Equations* (Best Poster Award)

– LMS Research School: PDE in Mathematical Biology, Edinburgh, 01.05.2019, GB: *Mathematical Modelling of Liver infections* (poster)

– PDE Afternoon, TU Vienna, 23.01.2019: *Entropy functionals for reaction-diffusion equations in modelling inflammations*

2018 – European Conference of Mathematical and Theoretical Biology, Lissabon, 26.07.2018, PT: *Gaining Information from Submodels – modelling liver infections with reaction diffusion equations*

– Modeling Population Dynamics, Ecology and Evolution, Leicester, 09.04.2018, GB: *Impact of geometry variations on solutions of reaction-diffusion models for hepatits C infections*

– DMV Tagung, Paderborn, 08.03.2018: *Comparison of two modeling approaches for liver infections*

– MathMod, Wien, 21.02.2018, AT: *Hierarchies of Modeling Infections: Comparison of Reaction-Diffusion System and Cellular Automaton* (poster)

– Rhein-Ruhr-Workshop, Bestwig, 02.02.2018: *Ansätze zur Modellierung von Leberentzündungen – Hierarchisierung einer Modellfamilie*

2017 – Oberwolfach Seminar: Mathematical Modeling in Systems Biology, 20.11.2017: *Mathematical Modelling of Liver Infections* (poster)

– Summer School: Modeling, Analysis, and Approximation Theory toward applications in tomography and inverse problems, Lübeck, 02.08.2017: *Theory of elasticity - basic concepts, links to tomography and general materials* (Plenary talk)

– Lipari School on Computational Complex and Social Systems, Lipari, 17.07.2017, IT: *Impact of chemotactical effects on the longtime behavior of liver infections* (poster)

– Autonomous vehicle workshop, Stanford, CA, 16.06.2017, USA: *Two Aspects in Modeling: Sensitivity and Reduction*

– Modelling Biological Evolution: Developing Novel Approaches, Leicester, 05.04.2017, GB: *Chemotactical Effects in Reaction-Diffusion Equations for Inflammations* (poster)

– Rhein-Ruhr-Workshop, Bestwig, 27.01.2017: *Einfluss von Chemotaxis auf Reaktions-Diffusions-Modelle für Entzündungen*

2016 – Opening of BRICS, TU Braunschweig, 15.06.2016: *Sensitivity and hierarchical model families in life-science* (poster)

– DPG Frühjahrstagung, Hannover, 29.02.2016: *Quantenkryptographie als Thema für den Physikunterricht* (poster)

Public talks

2024 – Invited speaker at "Celebrating Women in Mathematics in Graz", 24.06.2024, Graz.

2020 – Talk in a junior scientific lecture series on "infection and defense" with the title "Corona: Society in discourse with science", TU Braunschweig.

2018 – Science talk at the TU Night "You know something. But what do you know about the world? A science-philosophical debate", Braunschweig.

Further scientific activities

– Reviews for journals, e.g. Mathematical and Computer Modeling of Dynamical Systems, Chaos, Solitons & Fractals, Computers & Mathematics with Applications, Mathematical Biosciences, Discrete and Continuous Dynamical Systems, Applied Mathematical Modelling, Examples and Counterexamples, Canadian Mathematical Bulletin, and others.
– Member of a committee of the DAAD for student grants
– Member of SIAM, ESMTB, GAMM, European Women in Mathematics

Teaching

Ten independent lecture courses, four organized seminars, nine advised bachelor theses (five as first examiner), eight advised master theses (four as first examiner), over 25 organized and hold exercise classes for students of math and in engineering in German and English language. Successful Certification Program University Teaching.

Lecture courses

WT 2024/25	Contemporary methods of mathematical modeling in life sciences (University of Graz)
ST 2024	Partial Differential Equations (TU Braunschweig)
	Applied mathematics for engineers (Leuphana University Lüneburg)
ST 2022	Algorithm and data structures (HAWK Göttingen)
	Applied mathematics for engineers (Leuphana University Lüneburg)
WT 2021/22	Mathematics 3 - numerics and statistics (HAWK Göttingen)
	Advanced mathematics (HAWK Göttingen)
ST 2021	Applied mathematics for engineers (Leuphana University Lüneburg)
ST 2020	Applied mathematics for engineers (Leuphana Universität Lüneburg)
WT 2019/20	Mathematical modeling in life science (TU Braunschweig)

Seminars

WT 2020/21	Seminar on calculus of complex functions
ST 2019	Seminar on partial differential equations
ST 2017	Seminar on functional analysis
WT 2016/17	Seminar on functional analysis

Theses supervisions

PhD projects

[P1] Co-Supervisor of the PhD project *Communication analysis of digital group therapies for people with aphasia* in the Research Training Programme "Digitalization for health" at HAWK Göttingen, ongoing since 2022.

Master theses

[M8] Methodology for Improving Interpretability of Machine Learning Models for Drive-train Simulation (2025), TU Braunschweig and Porsche, supervisor.

[M7] Master thesis (engineering): Analytical solution of a 2D heat flux distribution in a glued single-lap join (2024), HS Hannover and DLR, supervisor.

[M6] Master thesis (computational sciences in engineering): Model learning using domain decomposition and machine learning (2024), TU Braunschweig, supervisor.

[M5] Master thesis (engineering): Machine learning techniques for prediction of performance of solar Hybrid photovoltaic/Thermal systems (2022), HAWK Göttingen, first examiner.

[M4] Master thesis (engineering): Planning, programming and virtual installation of an intralogistics system (2022), HAWK Göttingen, first examiner.

[M3] Master thesis (engineering): Performance comparison of CGANs and WGANs for crop disease image synthesis (2022), HAWK Göttingen, second examiner.

[M2] Master thesis (engineering): Practical mathematical modelling of methane production in a biogas plant (2022), Leuphana Universität Lüneburg, first examiner.

[M1] Master thesis (engineering): Classification of the activity of mussels by artificial intelligence (2022), HAWK Göttingen, first examiner.

Bachelor theses

[B9] Bachelor thesis (mathematics): Describing wildfires by height-depending compartment models (2024), TU Braunschweig, first examiner.

[B8] Bachelor thesis (mathematics): Influence of model extensions on the solutions of an advection diffusion reaction model for wildfires (2024), TU Braunschweig, first examiner.

[B7] Bachelor thesis (mathematics): Bifurcation analysis for dynamical systems: Evaluating the effectiveness of mosquito control measures (2024), TU Braunschweig, first examiner.

[B6] Bachelor thesis (engineering): Modeling and simulation of mechatronic components of the human body using opensim (2022), HAWK Göttingen, first examiner.

[B5] Bachelor thesis (engineering): Programming of a web application for controlling a SCADAS XS measure unit (2022), HAWK Göttingen, first examiner.

[B4] Bachelor thesis (engineering): Modeling and validation in vehicle dynamics with machine learning (2021), TU Braunschweig, supervisor.

[B3] Bachelor thesis (mathematics): The heat equation on curved manifolds and its connection to anisotropic materials (2019), TU Braunschweig, supervisor.

[B2] Bachelor thesis (mathematics): Embedding results in existence and uniqueness results for reaction diffusion equations and their application in modeling liver inflammations (2017), TU Braunschweig, supervisor.

[B1] Bachelor thesis (mathematics): Partial differential equations and Cellular Automatons for modeling inflammations (2017), TU Braunschweig, supervisor.

Exercise courses at TU Braunschweig

ST 24	Mathematical Modeling (Bachelor mathematics)
ST 23	Mathematics for Engineers B (Bachelor Engineering)
	Mathematical Modeling (Bachelor mathematics)
WT 22	Mathematics for Engineers A (Bachelor Engineering)
	Ordinary Differential Equations (international Master CSE)
ST 22	Partial differential equations (Master mathematics)
	Mathematical Modeling (Bachelor mathematics)
ST 21	Partial differential equations (Master mathematics)
	Mathematical Modeling (Bachelor mathematics)
	Mathematics for Engineers B: Calculus 2 and Ordinary differential equations (Bachelor engineering) 400 students
WT 20	Mathematics for Engineers A: Calculus 1 (Bachelor engineering) 600 students
	ODE and PDE (international Master CSE)
ST 20	Calculus of complex functions (Bachelor mathematics)
	Mathematical Modeling (Bachelor mathematics)

WT 19	Mathematics for Engineers V: Calculus 3 and Partial differential equations (Bachelor engineering), 400 students
ST 19	Modeling and numerics of differential equations (Master engineering), 450 students
	Repeat: Mathematics for Engineers V (Bachelor engineering)
WT 18	Mathematics for Engineers V: Calculus 3 and Partial differential equations (Bachelor engineering), 400 students
ST 18	Partial differential equations (Master mathematics)
	Modeling and numerics of differential equations (Master engineering), 450 students
	Repeat: Mathematics for Engineers V (Bachelor engineering)
WT 17	Mathematics for Engineers A: Calculus 1 and Linear Algebra (Bachelor engineering)
	Mathematics for Engineers V: Calculus 3 and Partial differential equations (Bachelor engineering), 400 students
ST 17	Mathematical Modeling (Bachelor mathematics)
	Modeling and numerics of differential equations (Master engineering), 450 students
	Repeat: Mathematics for Engineers V (Bachelor engineering)
WT 16	Functional analysis (Master mathematics)
	Mathematics for Engineers V: Calculus 3 and Partial differential equations (Bachelor engineering), 400 students
ST 16	Calculus of complex functions (Bachelor mathematics)
	Repeat: Mathematics for Engineers V (Bachelor engineering)
WT 15	Mathematical Modeling in life science (Master mathematics)
	Mathematics for Engineers V: Calculus 3 and Partial differential equations (Bachelor engineering), 400 students

Administrative activities

since 2024	member of a committee for research data management at TU Braunschweig
2022	member of a committee for the appointment of a professor at TU Braunschweig
since 2019	member of the exam committee in mathematics
	member of the admission committee in mathematics