Name: E-mail: Citizenship:	<b>Christian Kuehn</b> ckuehn@ma.tum.de German
Address:	Technical University of Munich Faculty of Mathematics Boltzmannstr. 3 85748 Garching bei München, Germany
Website:	www.multiscale.systems

# Employment

2022 – now	Technical University of Munich, Germany W3 Full Professorship (tenured)
2021 – 2022	Technical University of Munich, Germany W3 Associate Professorship (tenured)
2016	Technical University of Munich, Germany Lichtenberg Professorship for "Multiscale and Stochastic Dynamics"
2016 - 2021	Technical University of Munich, Germany W2 Assistant Professorship (tenure-track)
2011 – 2016	Vienna University of Technology, Austria Institute for Analysis and Scientific Computing Postdoctoral Researcher (in the research group: PDE and Dynamical Systems) 2013 - 2016: APART Fellow - Austrian Academy of Sciences 2011 - 2013: Marie-Curie International Re-Integration Grant
2013	Mathematisches Forschungsinstitut Oberwolfach (MFO), Germany Leibniz Fellow
2010 - 2011	Max Planck Institute for Physics of Complex Systems, Germany Postdoctoral Researcher (in the research group: Biological Networks)
EDUCATION	
2016	Vienna University of Technology, Austria <b>Privatdozent (PrivDoz.)</b> "venia docendi" Habilitation in Applied Mathematics
2008 - 2010	Cornell University, United States of America <b>Doctor of Philosophy (PhD)</b> in Applied Mathematics 2010 Advisor: Professor John Guckenheimer
2006 – 2008	Cornell University, United States of America <b>Master of Science (MSc)</b> in Applied Mathematics 2008 <i>Average Grade</i> 4.0 [4.0=best, 0.0=worst]
2005 – 2006	University of Cambridge, United Kingdom Certificate of Advanced Study (CASM) 2006 (Master of Advanced Studies (MASt) in Mathematics)
2002 - 2005	Jacobs University Bremen, Germany <b>Bachelor of Science (BSc)</b> in Mathematics 2005 <i>Average grade</i> 1.1 [1.0=best, 5.0=worst]

1994 – 2001 Cato Bontjes van Beek-Gymnasium Achim, Germany Abitur 2001 Average grade 1.0 [1.0=best, 6.0=worst]

### AWARDS & GRANTS (PROFESSOR LEVEL)

- 2024 now: Munich Center for Machine Learning (MCML) Associated Researcher
- 2024: TopMath Supervisory Award (TUM) selected by the students for excellence in mentoring of doctoral students
- 2024 2027: "Rough Invariant Manifolds for Stochastic Kuramoto-Type Models", DFG Standalone-Grants Program PI (co-PI Professor Alexandra Blessing)
- 2024 2026: "Nonlinear Waves and Pattern-Formation in Advective Systems" project within the Walter-Benjamin Program of DFG PI B. Hilder, host C. Kuehn
- 2024 2027: Innovative Training Network BeyondTheEdge Call EU Horizon 2020 - MSCA-ITN-2022/2023 co-PI C. Kuehn
- 2023 2027: Project ClimTip (Climate Tipping Points) European Union, Call: H2020-CL5-2023 co-PI & WP-leader (16 WPs total, main PI N. Boers at TUM)
- 2023: Teaching Award Fachschaft Mathematik at TUM advanced lecture: Topics in Dynamical Systems (Stochastic Dynamics) 2nd place, selected by the students for excellence in teaching
- 2023 2025: Swedish Royal Physiographic Society Collaboration Grant international collaboration with Sweden; PI Prof. Erik A. Martens
- 2022 2024: Distinguished Visiting Professorship Foundation Sciences Mathématiques de Paris recipient C. Kuehn (several longer guest visits to Paris)
- 2022 2024: "Validated Computation of Patterns in Recurrent Neural Networks" project within the Walter-Benjamin Program of DFG PI E. Queirolo, host C. Kuehn
- 2021 2026: JSPS Joint International Research (B) international host in collaboration with Japan; PI Prof. Goro Akagi
- 2021 2024: Henriette Hertz Scouting Program Alexander von Humboldt-Stiftung PI, allowed to scout and propose two Humboldt Fellows directly
- 2021 2024: "Multiscale Dynamics of Neural Nets via Stochastic Graphops" project within DFG SPP 2298: Theoretical Foundations of Deep Learning PI C. Kuehn, co-PI M. Engel
- 2021 2024: Lichtenberg Professorship Grant Extension PI, VolkswagenStiftung
- 2021 2024: "Quasi-Steady State Approximation for PDEs" D-A-CH grant: Austrian Science Fond (FWF) & German Science Foundation (DFG) PI C. Kuehn, co-PIs T. Bao. and K. Fellner
- 2021 2023: AvH: Humboldt Research Fellowship awarded to postdoctoral fellow Dr. Chuang Xu host C. Kuehn

- 2021 2023: Marie-Curie Postdoctoral Fellowship awarded to postdoc Dr. Cinzia Soresina, (declined due to longer term position in Graz) host C. Kuehn
- 2021 2024: Innovative Training Networks Project CriticalEarth Call Horizon 2020 - MSCA-ITN-2019/2020 co-PI C. Kuehn
- 2020 2023: "Geometric Desingularization of Higher Codimension Singularities in fast-slow systems", DFG, international partner: H. Jardon-Kojakhmetov PI
- 2020 2022: "Dynamics of Self-Adapting Networks" Call "Corona Crises and Beyond" VolkswagenStiftung PI, Lichtenberg Add-on
- 2020 2024: "Geometric Desingularization of Non-Hyperbolic Equilibria in Iterated Maps" DFG Collaborative Research Center SFB/TR 109 PI for project B10, co-PI Y. Suris
- 2020 2023: "Dynamics of Contact Processes on Simplicial Complexes" within DFG SPP 2265: Random Geometric Systems PI C. Kuehn, co-PI N. Gantert
- 2020 2022: DAAD Prime Fellowship awarded to postdoc Dr. Maximilian Engel host C. Kuehn at TUM; declined due to group leader offer to M. Engel
- 2020 2021: TUM Foundation Fellowship awarded to postdoc Dr. Chuang Xu host C. Kuehn
- 2020 2023: "Synchronization in Co-Evolutionary Network Dynamics" TUM International Graduate School of Science and Engineering PI: C. Kuehn, co-PI E. Martens (DTU)
- 2020 2021: John-von-Neumann Professorship Recipient: Professor Martin Rasmussen; postponed due to COVID host: C. Kuehn
- 2019 2021: EuroTech Postdoctoral Fellowship awarded to postdoc Dr. Iacopo Longo host C. Kuehn
- 2019 2020: TUM Global Incentive Fund Grant Collaboration grant / funding for a joint TUM-ICL workshop PI
- 2019 2021: Hans Fischer Senior Fellowship (Prof Krasimira Tsaneva-Atanasova) TUM Institute for Advanced Study PI and host C. Kuehn
- 2019: Teaching Award Fachschaft Mathematik at TUM 3rd place; lecture: Nonlinear Dynamics selected by the students for excellence in teaching
- 2019 2021: Hans Fischer Fellowship (Dr Christian Bick) TUM Institute for Advanced Study PI and host C. Kuehn
- 2019 2023: Project TiPES (Tipping Points in the Earth System) European Union, Call: H2020-LC-CLA PI & WP-leader (seven WPs total)

- 2019 2021: EuroTech Postdoctoral Fellowship awarded to postdoc Dr. Cinzia Soresina host C. Kuehn
- 2020 2024: ANR project "PERISTOCH" scientific leader C. Kuehn; PI N. Berglund (Univ. Orleans)
- 2019: John-von-Neumann Professorship Recipient: Professor Grigorios A. Pavliotis host: C. Kuehn
- 2019 2020: AvH: Humboldt Research Fellowship awarded to postdoc Dr. Hildeberto Jardon-Kojakhmetov host C. Kuehn
- 2019 2021: EuroTech Postdoctoral Fellowship awarded to postdoc Dr. Hildeberto Jardon-Kojakhmetov (declined due to AvH) host C. Kuehn
- 2018 2019: TUM Foundation Fellowship awarded to postdoc Dr. Hildeberto Jardon-Kojakhmetov host C. Kuehn
- 2017 2020: "Analysis of PDEs with Cross-Diffusion and Stochastic Driving" D-A-CH Individual Project Grant DFG & FWF PI, co-PI N. Zamponi
- 2017 2021: "Geometric Desingularization of Non-Hyperbolic Equilibria in Iterated Maps" DFG Collaborative Research Center SFB/TR 109 PI for project B10, co-PI Y. Suris
- 2017: Richard-von-Mises Prize International Association of Applied Mathematics and Mechanics (GAMM)
- 2017 now: Complexity Science Hub Vienna, Austria External Faculty Fellow
- 2016: Best Paper Award for 2015 (with F. Achleitner) Faculty of Mathematics & Geoinformation, Vienna University of Technology (for F. Achleitner & C. Kuehn, Adv. Diff. Eq., Vol. 20, No. 9-10, pp. 887-936, 2015)
- 2016 2019: "Critical Transitions and Systemic Risk in Socio-Economic Network Dynamical Systems" Austrian Science Fond (FWF) project grant PI, co-PI S. Thurner, transferred to MedUni Wien
- 2016 2021: "Nonlinear Multiscale Dynamical Systems" Lichtenberg Professorship Grant, VolkswagenStiftung PI, only four grants awarded in 2015 across all sciences

### AWARDS & GRANTS (POST-DOCTORAL LEVEL)

- 2015 2018: Innovative Training Networks Project CRITICS Call Horizon 2020 - MSCA-ITN-2014 *associated member*, 24 total participants
- 2013: Best Paper Award for 2012
   Faculty of Mathematics & Geoinformation, Vienna University of Technology (for C. Kuehn, SIAM Journal on Scientific Computing, 34(3), pp. A1635-A1658, 2012)
- 2013 2016: "Predictability and Continuation of Multiscale Systems" APART Fellowship - Austrian Academy of Sciences (ÖAW) PI

- 2013: Leibniz Fellowship Mathematisches Forschungsinstitut Oberwolfach (MFO) PI, 10 weeks fully financed research stay at MFO
- 2011 2013: "Singularly Perturbed Dynamical Systems" European Commission Marie-Curie Re-integration Grant PI, hosted by: P. Szmolyan, TU Vienna
- 2011: DAAD travel grant to attend ICIAM 2011 PI

### AWARDS & GRANTS (PRE-DOCTORAL LEVEL)

- 2010: Travel grant for conference: "The 8<sup>th</sup> AIMS conference"
- 2010: Travel grant for conference: "Emerging Topics in DS & PDE"
- 2010: Travel grant for conference: "Stochastic Models in the Neurosciences"
- 2009: SIAM Certificate for "outstanding efforts and accomplishment" (for my role in the SIAM Chapter at Cornell University)
- 2008 2010: Three travel grants by the Cornell Graduate School
- 2007: SIAM Contest DSWeb 2007 Winner (\$ 1000 prize)
- 2007: Grant for workshop: "Nonlinear Evolution Equations and Dynamical Sytems"
- 2007: Selection & Grant for "AARMS Summer School 2007"
- 2006: JSS Scholarship & Travel Grant to attend the 16<sup>th</sup> Jyväskylä Summer School
- 2005 2006: Partial Bursary Cambridge European Trust
- 2005: Selection & Grant for "AARMS Summer School 2005"
- 2004, 2005: President's List Jacobs University Bremen (awarded for a grade point average of 1.5 or better [1.0=best,5.0=worst], my GPA was 1.1)
- 2002 2005: Merit-based scholarship Jacobs University Bremen

### **ORGANIZATION & SERVICE**

- 2025: Organization (jointly with A. Blessing) of a mini-symposium Title: *Stochastic Dynamics* (8 talks) at the SIAM Conference on Applications of Dynamical Systems
- 2024 now: GAMM Representative at TUM
- 2024: Organization (with J. Kurths, E.A. Martens & S. Yanchuk) of a mini-symposium Title: *Adaptive Network Dynamics* (8 talks) at the Dynamics Days Europe Conference (Bremen, Germany)
- 2024: Organization (jointly with R. Barrio & A. Iuorio) of a mini-symposium Title: *Applications of Multiple Time Scale Dynamics* (8 talks) at the Equadiff Conference (Karlstad, Sweden)
- 2023-2025: Guest Editor (with S. Yanchuk, E.A. Martens & J. Kurths) "Advances in Adaptive Dynamical Networks" - Focus Issue for Chaos (AIP)
- 2023 now: Evaluation Board for TUM University Foundation Fellowship
- 2023 now: MDSI Focus Topic (founding member)
   "Interdisciplinary Research on Graphs, Networks, and Connectivity Structures (Interconnect)"
- 2023 now: Associate Editor "Journal of Nonlinear Science" (JNLS)
- 2023: TUM MSE Master Studies Entrance Examiner

- 2023: Organization (with N.Boers) of four events Title: ESR workshop "Methods of Stochastic Multiscale Dynamics" Title: Workshop "Critical transitions in complex climate models" Title: ESR workshop "Data analysis and observations" Title: TiPES & CriticalEarth Conference on Tipping in the Earth System at TUM Institute for Advanced Study (Garching, Germany)
- 2022 now: MDSI student selection and paper prize committee member
- 2022: Organization (with I. Longo) of a workshop Title: *Critical Transitions and Non-Autonomous Bifurcations* (25 talks) at TUM Akademiezentrum (Raitenhaslach, Germany)
- 2022: Organization (with R. Berner, T. Gross, J. Kurths, S. Yanchuk) of a mini-symposium Title: *Adaptive Dynamical Networks* (12 talks) at the Dynamics Days Europe (Aberdeen, Scotland)
- 2022: Organization (jointly with M. Gnann) of a mini-symposium Title: *Stochastic Pattern Dynamics* (8 talks) at the SIAM NWCS Conference (Bremen, Germany)
- 2022 now: Associate Editor "SIAM Journal on Applied Dynamical Systems" (SIADS)
- 2022 now: Associate Editor "Partial Differential Equations and Applications" (PDEA)
- 2021: Organization (jointly with H. Jardon-Kojakhmetov) of a mini-symposium Title: *Multiple Time Scale Dynamics and Applications* (4 talks) at the Dynamics Days Europe (Nice, France)
- 2021: Organization (jointly with I. Longo) of a mini-symposium Title: *Nonautonomous Bifurcation Theory* (4 talks) at the Dynamics Days Europe (Nice, France)
- 2021: Organization (with M. Beck, M. Chirilus-Bruckner, J. Rademacher) of a workshop Title: *Dynamics of Patterns* (25 talks) at the Mathematisches Forschungsinstitut Oberwolfach [MFO] (Oberwolfach, Germany)
- 2021: Conference organizer (with C. Bick, K. Tsaneva-Atanasova) *Conference: Theory of Network Dynamics* (10 talks) at TUM Institute for Advanced Study (Munich, Germany)
- 2021: Workshop organizer (jointly with M. Engel and A. Neamtu) *Workshop on Methods in Stochastic Dynamics* (16 talks) at Complexity Science Hub Vienna (Vienna, Austria)
- 2021: Organization (jointly with E. Martens) of a mini-symposium Title: *Synchronization Dynamics in Networks* (4 talks) at the SIAM Conference on Applications of Dynamical Systems (online event)
- 2020 2023: Co-initiator & scientific committee member One World Dynamics Seminar
- 2020 now: Vice-Speaker "Elitestudiengang TopMath"
- 2020 now: Scientific Director "Imperial TUM Mathematical Sciences Hub"
- 2020: Organization (jointly with H. Jardon-Kojakhmetov) of a mini-symposium Title: *Fast-Slow Systems* (4 talks) at the Dynamics Days Europe (Nice, France); conference cancelled
- 2020: Organization (jointly with M. Gnann) of a mini-symposium Title: *Stochastic Pattern Dynamics* (8 talks) at the SIAM NWCS Conference (Bremen, Germany); conference cancelled

- 2020-2021: Advisory Board for SIAM DS-group (elected by community vote)
- 2020: Organization (jointly with G. Pavliotis) of a mini-symposium Title: *Bifurcations and Uncertainty Quantification* (8 talks) at the SIAM UQ Conference (Garching, Germany); conference cancelled
- 2020: Workshop organizer *TUM ICL Mathematics Workshop* (10 talks, approx. 40 participants) at TUM Department of Mathematics (Munich, Germany)
- 2019-2022: Focus Group Leader for "Network Dynamics" jointly with: C. Bick and K. Tsaneva-Atanasova TUM Institute for Advanced Study (IAS)
- 2019: Organization (jointly with M. Cicalese) of the SFB/TR109-TopMath-ISAM Summer School Title: *Multiscale Phenomena in Geometry and Dynamics* (1 week school, 16 two-hour lectures) at the Technical University Munich (Munich, Germany)
- 2019: Organization (jointly with B. Gentz) of a mini-symposium Title: *Stochastic Dynamics* (8 talks) at the Equadiff Conference (Leiden, Netherlands)
- 2019: Organization (jointly with H. Jardon Kojakhmetov) of a mini-symposium Title: *New Directions in Multiple Time Scale Dynamics* (8 talks) at the SIAM Conference on Applications of Dynamical Systems (Snowbird, US)
- 2018 now: Mentor for Elitestudiengang "Theoretical Mathematical Physics"
- 2018: Organization (jointly with Y. Suris) of a mini-symposium Title: *Structure Preservation in Discrete Dynamics* (3 talks) at the Discretization in Geometry and Dynamics Conference (Berlin, Germany)
- 2018 now: Chair of Doctoral Examination Commissions (2018) Daniel Stilck Franca (2019) Jonas Latz (2020) Niklas Behringer (2023) Stefan Bamberger (2025) Matthias Greger
- 2018: Conference organizer (with N. Berglund, A. Debussche, F. Delarue) *Stochastic Partial Differential Equations* (approx. 30 talks) at Centre International de Rencontres Mathématiques (Marseille, France)
- 2018: Workgroup TUM/TU-Wien Organizer *Fractional Laplacian: Numerics, Analysis, Dynamics* (5 talks) at Technical University of Munich (Garching, Germany)
- 2017: Head of TopMath Examination Board (independent studies exams)
- 2017: Workshop organizer (jointly with L. Horstmeyer and S. Thurner) *Workshop on Adaptive Networks* (8 talks) at Complexity Science Hub Vienna (Vienna, Austria)
- 2017 now: Entrance Committee Member, Mathematics in Science and Engineering at TUM
- 2017 now: Various selection panels for TopMath students
- 2017 now: TopMath Independent Studies Examiner (2017) L. Arcidiacono, M. Forster, N. Schilling. (2018) L. Arcidiacono, T. Böhle, M. Forster, D. Hien, N. Schilling. (2019) M.E. Gonzalez. (2021) G. Zucal. (2022) G. Chiusole.

- 2017: Organization (jointly with D. Blömker) of a mini-symposium Title: *Stochastic Dynamics* (4 talks) at the SIAM Conference on Applications of Dynamical Systems (Snowbird, US)
- 2016 now: Steering Board Member, TUM Elitestudienprogramm TopMath
- 2015: Conference organizer (jointly with F. Hubalek) *Austrian Stochastics Days* (18 talks) at Vienna University of Technology (Vienna, Austria)
- 2015: Organization (jointly with J. Rademacher) of a mini-symposium Title: *Dynamics of Patterns* (8 talks) at the DMV Annual Meeting (Hamburg, Germany)
- 2015: Organization (jointly with D. Avitabile and H. Uecker) of a mini-symposium Title: *Frontiers in Numerical Continuation Methods* (8 talks) at the SciCADE Conference (Potsdam, Germany)
- 2015: Organization (jointly with M. Wolfrum) of a mini-symposium Title: *Coupled Oscillators and their Mean-Field Dynamics* (8 talks) at the Equadiff Conference (Lyon, France)
- 2014: Organization of a mini-workshop Title: *Fluids, Dynamics and Differential Equations* (2 talks) at Vienna University of Technology (Vienna, Austria)
- 2014: Organization (jointly with B. Sandstede) of a mini-symposium Title: *Stochastic Partial Differential Equations and Patterns* (4 talks) at the SIAM Conference on Nonlinear Waves and Coherent Structures (Cambridge, UK)
- 2013: Organization of a mini-symposium Title: *Numerical Methods for Stochastic Dynamical Systems* (4 talks) at the SIAM Conference on Applications of Dynamical Systems (Snowbird, US)
- 2011: Organization (jointly with S. Hallerberg & H. Kantz) of a mini-symposium Title: *Dynamics of Critical Transitions and Extreme Events* (4 talks) at the Dynamics Days Europe (Oldenburg, Germany)
- 2011: Organization (jointly with J. Sieber) of a mini-symposium Title: *Prediction of Noisy Slow-Fast Critical Transitions* (8 talks) at the SIAM Conference on Applications of Dynamical Systems (Snowbird, US)
- 2009: Established SIAM Student Chapter at Cornell University
- 2008-2010: Initiated and organized the "Graduate Student Applied Dynamical Systems Seminar" at Cornell University

### REVIEWING

- Reviewer (journals):
  - Acta Applicandae Mathematicae
  - Acta Biotheoretica
  - Advances in Complex Systems
  - Advances in Difference Equations
  - AIP Advances
  - American Naturalist
  - Annals of Applied Probability
  - Annals of Probability
  - Applied Mathematical Modelling
  - Applied Mathematics and Computation
  - Applied Mathematics Letters

- · Bioinformatics and Biology Insights
- Boundary Value Problems
- Bulletin of Mathematical Biology
- Chaos: An Interdisciplinary Journal of Nonlinear Science
- Climate Dynamics
- Communications in Mathematical Physics
- Communications in Nonlinear Science and Numerical Simulation
- Computational Science & Discovery
- Computer Methods and Programs in Biomedicine
- Computers and Mathematics with Applications
- Discrete and Continuous Dynamical Systems Series B
- Discrete and Continuous Dynamical Systems Series S
- Earth System Dynamics
- Ecological Complexity
- European Biophysics Journal
- European Physical Journal B
- European Physical Journal Plus
- European Physics Letters
- Fluctuation and Noise Letters
- Frontiers in the Life Sciences
- IEEE Transactions on Circuits and Systems
- IEEE Transactions on Network Science and Engineering
- International Journal of Bifurcation and Chaos
- International Journal of Neural Systems
- International Journal of Nonlinear Sciences and Numerical Simulation
- Journal of Applied Analysis
- Journal of Computational and Applied Mathematics
- Journal of Computational Dynamics
- Journal of Dynamics and Differential Equations
- Journal of Differential Equations
- Journal of Functional Analysis
- Journal of Mathematical Analysis and Applications
- Journal of Mathematical Biology
- Journal of Mathematical Neuroscience
- Journal of Nonlinear Science
- Journal of Physics A: Mathematical and Theoretical
- Journal of Physics: Conference Series
- Journal of Statistical Mechanics
- Journal of the European Mathematical Society
- Journal of the London Mathematical Society
- Journal of the Royal Society Interface
- Kinetic & Related Models
- Letters in Mathematical Physics
- Mathematical Biosciences
- Mathematical Biosciences and Engineering
- Mathematical Methods in the Applied Sciences
- Mathematical Modelling and Analysis

- Mathematical Modelling of Natural Phenomena
- Mathematics (AIMS)
- Mathematics and Computers in Simulation
- Mathematics and Mechanics of Solids
- Mathematische Nachrichten
- Memoirs of the American Mathematical Society
- Nature Climate Change
- Neural Processing Letters
- New Journal of Physics
- Nonlinear Analysis A: Theory, Methods & Applications
- Nonlinear Differential Equations and Applications NoDEA
- Nonlinear Dynamics
- Nonlinearity
- Numerical Algorithms
- PLoS One
- Philosophical Transactions of the Royal Society A
- Physica A: Statistical Mechanics and its Applications
- Physica D: Nonlinear Phenomena
- Physical Review E
- Physical Review X
- Physics Letters A
- Probability, Uncertainty and Quantitative Risk
- Proceedings of the American Mathematical Society
- Proceedings of the National Academy of Sciences, India A
- Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences
- Royal Society Open Science
- Scientific Reports
- SIAM Journal on Applied Dynamical Systems
- SIAM Journal on Applied Mathematics
- SIAM Journal on Mathematical Analysis
- SIAM Multiscale Modeling and Simulation
- SIAM Review
- Stochastics
- Studies in Applied Mathematics
- Theoretical Ecology
- Theoretical Population Biology
- Zeitschrift für Angewandte Mathematik und Physik
- Reviewer (books):
  - Society for Industrial and Applied Mathematics (SIAM)
  - Springer Mathematics Applied Mathematical Sciences
  - Springer Mathematics Monographs
  - Springer Physics Edited Volumes
- Reviewer (funding agencies & institutes):
  - Alexander von Humboldt Foundation, Germany
  - Agence Nationale de la Recherche (ANR), France
  - Austrian Agency for Education and Internationalisation (OeAD), Austria
  - Banff International Research Station, Canada

- Croatian Science Foundation (CSF), Croatia
- Deutsche Forschungsgemeinschaft (DFG), Germany
- Dynasty Foundation, Russia
- Engineering and Physical Sciences Research Council (EPSRC), UK
- German Academic Exchange Service (DAAD), Germany
- Israel Science Foundation (ISF), Israel
- Marsden Fund, New Zealand
- National Research Development and Innovation (NRDI), Hungary
- National Science Centre (NCN), Poland
- Natural Sciences and Engineering Research Council (NSERC), Canada
- Netherlands Organisation for Scientific Research (NWO), Netherlands
- Research Foundation Flanders (FWO), Belgium
- Studienstiftung des deutschen Volkes, Germany
- TUM SFB/TR 109 Internal Proposals, Germany
- External reviewer dissertations & theses:
  - 2017 Dr. Marius Yamakou, University of Leipzig / MPI-MIS
  - 2018 M.Sc. Kevin Höhlein, TUM (M.Sc. thesis, Department of Physics)
  - 2020 Dr. Jichen Yang, University of Bremen
  - 2020 Dr. Günter Schneckenreither, TU Wien
  - 2020 Dr. Christian Aarset, University of Klagenfurt
  - 2022 Dr. Florian Huber, TU Wien
  - 2022 Dr. Artur Prugger, University of Bremen
  - 2023 M.Sc. Eun Joo Kim, TUM (M.Sc. thesis, Department of Aerospace and Geodesy)
  - 2023 Dr. Alexandra Holzinger, TU Wien
  - 2023 M.Sc. Paul Nemec, TUM (M.Sc. thesis, Department of Physics)
  - 2024 Dr. Seungjae Lee, TUM Physics
  - 2024 Dr. Marvin Lücke, FU Berlin

### MENTORING

- Postdoctoral Researcher: Maxime Breden
- Postdoctoral Researcher: Maximilian Engel
- Postdoctoral Researcher: Manuel Gnann
- Postdoctoral Researcher: Bastian Hilder
- Postdoctoral Researcher: Leonhard Horstmeyer (jointly with S. Thurner)
- Postdoctoral Researcher: Felix Hummel
- Postdoctoral Researcher: Hildeberto Jardon-Kojakhmetov
- Postdoctoral Researcher: Samuel Jelbart
- Postdoctoral Researcher: Konstantin Clauß
- Postdoctoral Researcher: Iacopo Longo
- Postdoctoral Researcher: Kerstin Lux
- Postdoctoral Researcher: Jan Mölter

- Postdoctoral Researcher: Chris Münch (jointly with M. Brokate)
- Postdoctoral Researcher: Alexandra Neamtu
- Postdoctoral Researcher: Chiara Piazzola (jointly with E. Ullmann)
- Postdoctoral Researcher: Elena Queirolo
- Postdoctoral Researcher: Nada Sissouno (main mentor F. Krahmer)
- Postdoctoral Researcher: Cinzia Soresina
- Postdoctoral Researcher: Jan-Eric Sulzbach
- Postdoctoral Researcher: Sebastian Throm
- Postdoctoral Researcher: Tobias Wöhrer
- Postdoctoral Researcher: Chuang Xu
- Postdoctoral Researcher: Jaeyoung Yoon
- Doctoral Student: Luca Arcidiacono
- Doctoral Student: Paolo Bernuzzi
- Doctoral Student: Tobias Böhle
- Doctoral Student: Gideon Chiusole
- Doctoral Student: Marios Gkogkas
- Doctoral Student: Maria Elena Gonzalez Herrero
- Doctoral Student: Annalisa Iuorio (main mentor: P. Szmolyan)
- Doctoral Student: Valérian Jaques-Dumas (main mentor: H. Dijkstra)
- Doctoral Student: Benjamin Jüttner (main mentor: E.A. Martens)
- Doctoral Student: Christian Kluge
- Doctoral Student: Sara-Viola Kuntz
- Doctoral Student: Giacomo Landi
- Doctoral Student: Lucia Layritz (main mentor: A. Rammig)
- Doctoral Student: Andreas Morr (main mentor: N. Boers)
- Doctoral Student: Fergal Murphy
- Doctoral Student: Anne Pein
- Doctoral Student: Carlos Pulido (main mentor: J. Soler)
- Doctoral Student: Sacha Sinnet (main mentors: H. Dijkstra and A. von der Heydt)
- Doctoral Student: Maximilian Steinert
- Doctoral Student: Pia Steinmeyer (jointly with N. Gantert)
- Doctoral Student: Lara Trussardi (main mentor: A. Jüngel)
- Doctoral Student: Andreas Widder (main mentor: V. Veliov)

- Master Student: Luca Arcidiacono
- Master Student: Saadinur Azisbek Uulu (jointly with P. Bernuzzi)
- Master Student: Dylan Bansard-Tresse (jointly with M. Engel)
- Master Student: Christopher Beekmann (jointly with G. Chiusole)
- Master Student: Tomer Berlinski (jointly with J. Mölter)
- Master Student: Tobias Böhle
- Master Student: Andreas Burkhart (jointly with H. Jardon)
- Master Student: Gideon Chiusole (jointly with P. Friz & N. Gantert)
- Master Student: Matteo Cirachi (TMP mentor)
- Master Student: Alexandru Craciun (jointly with D. Ghoshdastidar)
- Master Student: Dominik Denkscherz (jointly with I. Longo)
- Master Student: Jakob Deser (jointly with N. Boers)
- Master Student: Antonia Düx (jointly with P. Bernuzzi)
- Master Student: Stefanie Ecker (jointly with M.E. Gonzalez Herrero)
- Master Student: Noémie Ehstand (jointly with C. Soresina)
- Master Student: Katharina Eichinger (jointly with A. Neamtu)
- Master Student: Islam Elgamal (jointly with J. Mölter)
- Master Student: Manuel Fuchsberger (jointly with M. Scherer)
- Master Student: Margaret Lane (jointly with C. Soresina)
- Master Student: Marios Gkogkas (jointly with M. Engel)
- Master Student: Anastasia Golovin (jointly with J. Mölter)
- Master Student: Maria Elena Gonzalez Herrero
- Master Student: Feyza Goren (jointly with J. Yoon)
- Master Student: Frederik Heers
- Master Student: Tobias Jawecki
- Master Student: Eun Joo Kim (jointly with N. Boers)
- Master Student: Michael Klausz (jointly with K. Glau)
- Master Student: Natan Kobilica (jointly with E. Frey and H. Weyer)
- Master Student: Ekin Su Köksal (jointly with K. Lux)
- Master Student: Hana Krakovská (jointly with I. Longo)
- Master Student: Harsha Kumar (jointly with H. Jardon)
- Master Student: Sara-Viola Kuntz (jointly with S. Jelbart)
- Master Student: Aliaksei Kuzmenka (jointly with J.-E. Sulzbach)

- Master Student: Verena Lachner (jointly with F. Hummel)
- Master Student: Polina Lakrisenko (jointly with M. Breden)
- Master Student: Pascal Lehner (jointly with J.-E. Sulzbach)
- Master Student: Shaista Mahamood Shariff (jointly with S.-V. Kuntz)
- · Master Student: Alejandro Martínez Sánchez (jointly with S. Jelbart)
- Master Student: Alejandro Morera (jointly with T. Wöhrer)
- Master Student: Marta Mucci (jointly with J. Mölter)
- Master Student: Merlin Pelz (jointly with M. Silber)
- Master Student: Johannes Piller (jointly with M. Engel)
- Master Student: Konrad Reichel (jointly with S.-V. Kuntz and T. Wöhrer)
- Master Student: Lion Reichl (jointly with S.-V. Kuntz)
- Master Student: Francesco Romano
- Master Student: Maximilian Schemel (jointly with M. Steinert)
- Master Student: Elisabeth Schiessler (jointly with A. Jüngel)
- Master Student: Andreas Scheibner (jointly with F. Hummel and S. Jelbart)
- Master Student: Daniela Schlager (jointly with K. Clauß)
- Master Student: Martin Schopp (jointly with C. Piazzola)
- Master Student: Pascal SedImeier
- Master Student: Onur Serin (jointly with F. Krahmer and N. Sissouno)
- Master Student: Shaista Mahamood Shariff (jointly with S.-V. Kuntz)
- Master Student: Frieder Simon (jointly with P. Szmolyan)
- Master Student: Edrick Solís González (jointly with J. Mölter)
- Master Student: Maximilian Steinert
- Master Student: Thomas Steinhofer (jointly with M. Engel)
- Master Student: Pia Steinmeyer (jointly with M. Engel)
- Master Student: Jacopo Vittadello (jointly with I. Longo)
- Master Student: Julian Westermeier
- Master Student: Lukas Wittmann
- Master Student: Antoine Wolff (jointly with M. Breden)
- Master Student: Dominik Worf
- Master Student: Yannick Wyss (jointly with T. Böhle)
- Master Student: Giulio Zucal
- Master Student: Xuexing Zhao (jointly with J.-E. Sulzbach)

- Bachelor Student: Luca Arcidiacono
- Bachelor Student: Maxim Baumgärtel (jointly with J. Mölter)
- Bachelor Student: Felix Becker (jointly with P. Bernuzzi)
- Bachelor Student: Philippe Biberich
- Bachelor Student: Tobias Böhle
- Bachelor Student: Stefanie Ecker
- Bachelor Student: Alexander Feil (jointly with L. Layritz)
- Bachelor Student: Teodor-Stefan Ghidersa
- Bachelor Student: Maria Elena Gonzalez Herrero
- Bachelor Student: Kai Demeneghi Göttelmann (jointly with A. Morr)
- Bachelor Student: Haowen Guan
- Bachelor Student: Ekin Su Köksal (jointly with A. Pein)
- Bachelor Student: Sara-Viola Kuntz (jointly with M. Engel)
- Bachelor Student: Verena Lachner
- Bachelor Student: Marina Lex
- Bachelor Student: Pascal Marcel (jointly with C. Kluge)
- Bachelor Student: Matthias Niller
- Bachelor Student: Viktor Saprykin
- Bachelor Student: Aleksandr Solodovnik (jointly with M. Steinert)
- Bachelor Student: Julian Streit
- Bachelor Student: Maximilian Windsheimer (jointly with L. Arcidiacono)
- Bachelor Student: Tongyan Wu (jointly with E. Queirolo)

#### **TEACHING (AS A PROFESSOR)**

2025	Hauptseminar: "tba" - TUM
2025	Lecture: "Dynamical Systems" - TUM
2025	Oberseminar: "Dynamics" - TUM
2024 - 2025	Lecture: "Network Dynamics" - TUM
2024 - 2025	Lecture: "Introduction to Nonlinear Dynamics" - TUM
2024 - 2025	Oberseminar: "Dynamics" - TUM
2024 - 2025	Hauptseminar: "Dynamics of Machine Learning" - TUM
2024	Lecture: "Analysis 2" - TUM
2024	Oberseminar: "Dynamics" - TUM
2023 - 2024	Lecture: "Analysis 1" - TUM

- 2023 2024 Oberseminar: "Dynamics" TUM
- 2023 Invited Lecturer: Summer School Multiscale Analysis (Groningen, Netherlands)
- 2023 Hauptseminar: "PDE Dynamics" TUM
- 2023 Lecture: "Dynamical Systems" TUM
- 2023 Oberseminar: "Dynamics" TUM
- 2023 Lecturer: Winter School CriticalEarth (Garching, Germany)
- 2022 2023 Lecture: "Stochastic Dynamics" TUM
- 2022 2023 Lecture: "Introduction to Nonlinear Dynamics" TUM
- 2022 2023 Oberseminar: "Dynamics" TUM
- 2022 Hauptseminar: "Modelling Epidemic Network Dynamics" TUM
- 2022 Lecture: "Dynamical Systems" TUM
- 2022 Oberseminar: "Dynamics" TUM
- 2021 2022 Research Sabbatical TUM
- 2021 2022 Oberseminar: "Dynamics" TUM
- 2021 Hauptseminar: "Nonautonomous Dynamical Systems" TUM
- 2021 Lecture: "Dynamical Systems" TUM
- 2021 Oberseminar: "Dynamics" TUM
- 2020 2021 Oberseminar: "Dynamics" TUM
- 2020 Lecture: "Gewöhnliche Differentialgleichungen" TUM
- 2020 Oberseminar: "Dynamics" TUM
- 2019 2020 Lecture: "Analysis 3 für Elektrotechnik" TUM
- 2019 2020 Oberseminar: "Dynamics" TUM
- 2019 Lecture: "Gewöhnliche Differentialgleichungen" TUM
- 2019 Oberseminar: "Dynamics" TUM
- 2018 2019 Lecture: "Case Studies in Mathematical Modelling" TUM
- 2018 2019 Lecture: "Introduction to Nonlinear Dynamics" TUM
- 2018 2019 Hauptseminar: "Chaos & Chance" TUM
- 2018 2019 Oberseminar: "Dynamics" TUM
- 2018 Lecture: "Dynamical Systems" TUM
- 2018 Oberseminar: "Dynamics" TUM
- 2018 (Pro-)Seminar: "Network Science" TUM
- 2018 Invited Lecturer: Winter School CRITICS (Wöltingerode, Germany)
- 2017 2018 Lecture: "Introduction to Nonlinear Dynamics" TUM

2017 – 2018	Hauptseminar: "Topics in Dynamical Systems" - TUM
2017 – 2018	Oberseminar: "Dynamics" - TUM
2017	Lecture: "Dynamical Systems" - TUM
2017	Oberseminar: "Dynamics" - TUM
2017	(Pro-)Seminar: "Introduction to Network Dynamics" - TUM
2017 – now	Module Responsibility: Dynamics - TUM
2017 – now	Mathematische Grundlagenprüfung - TUM
2016 - 2017	Lecture: "Interactions between Dynamics and PDE" - TUM
2016	Invited Lecturer: School on Multistability and Tipping (Dresden, Germany)

### **TEACHING (AS A POSTDOC)**

2015	Seminar (jointly with M. Melenk): "Computational Stochastic PDE" - TU Vienna
2015	Invited Lecturer: MURPHYS-HSFS Spring School (Levico Terme, Italy)
2015	Invited Lecturer: School on Dynamics of Multilevel Systems (MPI-PKS, Dresden)
2014 - 2015	Lecture: "Dynamical Systems and Partial Differential Equations" - TU Vienna

## **TEACHING & WORK EXPERIENCE (AS A STUDENT)**

2007 – 2010	Graduate Research Assistant - Cornell University
2007	Teaching Assistant Trainer - Cornell University
2006 – 2007	Teaching Assistant - Cornell University Math191 Calculus for Engineers Math424 Fourier Series and Wavelets Math428 Partial Differential Equations
2005	Student Assistant - Jacobs University Bremen
2004 - 2005	Teaching Assistant - Jacobs University Bremen 2 <sup>nd</sup> -year undergraduate course: Numerical Methods
2004	Internship - ONVIDA GmbH (Duisburg, Germany)
2003	Internship - EADS Space Transportation (Bremen, Germany)

# Selected Plenary Talks (\* = upcoming)

- 2024 Equadiff (Karlstad, Sweden)
- 2023 12th Conference on Qualitative Theory of Differential Equations (Szeged, Hungary)
- 2017 GAMM Annual Meeting (Weimar, Germany)

INVITED TAL	KS (* =	UPCOMING)
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2025	* Networked Mathematical Flows (Bedlewo, Poland)
2025	* SCALES Conference (Mainz, Germany)
2025	* Conference on Random Dynamical Systems (Konstanz, Germany)
2025	* SIAM Applied Dynamical Systems Conference (Denver, USA)
2025	* Waves Conference (Karlsruhe, Germany)
2024	BeyondTheEdge Workshop (Amsterdam, Italy)
2024	University of Trento Mathematics Colloquium (Trento, Italy)
2024	Applied Geometry for Data Sciences (Singapore)
2024	Workshop on Complex Biosystems (Graz, Austria)
2024	NetDyn Workshop (Lund, Sweden; online)
2024	Lorentz Center Multiple Scales Workshop (Leiden, Netherlands)
2024	SPDEs Workshop at TU Delft (Delft, Netherlands)
2024	The ABCs of Sparsity and Singular Structures (Aachen, Germany)
2024	Minisymposium at SIAM UQ (Trieste, Italy)
2023	Stochastics Seminar Fernuniversität Hagen (Hagen, Germany)
2023	Ask-me-if Seminar (Munich, Germany)
2023	MDSI Interdisciplinary Exchange (Munich, Germany)
2023	Colloquium at University of Orleans (Orleans, France)
2023	Dynamics Days Europe (Naples, Italy)
2023	BMS Math+ Colloquium (Berlin, Germany)
2023	SIAM Applied Dynamical Systems Conference (Portland, USA)
2023	TUM-Augsburg PDE Workshop (Kloster Seeon, Germany)
2023	Conference on Cross-Diffusion Systems (Konstanz, Germany)
2022	Topics in Multiple Time Scale Dynamics (Banff, Canada; online)
2022	UBC Mathematical Biology Seminar (Vancouver, Canada; online)
2022	Kinetic & Hydrodynamic Descriptions in Collective Behaviour (Granada, Spain)
2022	ETH Zürich, Seminar Talk (Zürich, Switzerland)
2022	Random Discrete Structures (Schliersee, Germany)
2022	SIAM Nonlinear Waves and Coherent Structures (Bremen, Germany)
2022	Stochastic Dynamics, Nonlinear Probability, and Ergodicity (Durham, UK)
2022	Workshop on Ecological Dynamics (Leiden, Netherlands)
2022	Applied Geometry for Data Sciences (Chongqing, China; hybrid)

2022	7th International Conference on RDS (Hanoi, Vietnam; hybrid)
2022	SIAM Conference on Life Sciences (Pittsburgh, USA)
2022	Nordita Workshop on Complex Dynamical Networks (Stockholm, Sweden)
2022	Stochastic Modelling of Complex Systems (Berlin, Germany)
2022	CSH External Faculty Meeting Workshop (Vienna, Austria)
2022	Mathematical Concepts in the Sciences and Humanities (Leipzig, Germany)
2022	TUM IGSSE Forum (Munich, Germany)
2022	SPP2265 Opening Conference (Berlin, Germany)
2022	Analysis Seminar University of Erlangen (Erlangen, Germany; online)
2022	Dynamics Days US (USA; online)
2021	Mathematical Biology Seminar (University of Iowa, USA; online)
2021	Seminar Stochastics Uni Leipzig (Leipzig, Germany; online)
2021	DMV-ÖMG Annual Meeting (Passau, Germany; online)
2021	Workshop on Diffusive Systems (Edinburgh, Scotland; online)
2021	Dynamics Days Europe (Nice, France; online)
2021	SIAM Applied Dynamical Systems Conference (online)
2021	SN PDE Seminar (online)
2021	Nonlinear Meeting 2021 (online)
2020	DMV Annual Meeting (Chemnitz, Germany; online)
2020	Critical Transitions in Complex Systems (Shanghai, China; online)
2020	Dynamical Systems Applied to Biology and Natural Sciences (Trento, Italy)
2020	Max Planck Institute MIS, Seminar (Leipzig, Germany)
2019	7th Viennese Vintage Workshop (Vienna, Austria)
2019	CSH Workshop on Higher-Order Networks (Vienna, Austria)
2019	TiPES Opening Workshop (Paris, France)
2019	Seminar Radboud University Nijmegen (Nijmegen, Netherlands)
2019	ENUMATH 2019 (Egmond aan Zee, Netherlands)
2019	Seminar TU Delft (Delft, Netherlands)
2019	New Mathematical Methods for Complex Systems in Ecology (Banff, Canada)
2019	International Congress of Industrial and Applied Mathematics (Valencia, Spain)
2019	Equadiff [2 talks] (Leiden, Netherlands)
2019	Heriot Watt University Math-Bio Colloquium (Edinburgh, UK)
2019	SIAM Applied Dynamical Systems Conference (Snowbird, USA)

2019	Santa Fe Institute Colloquium (Santa Fe, USA)
2019	GAMM Annual Meeting (Vienna, Austria)
2019	Oberseminar Dynamical Systems Uni Stuttgart (Stuttgart, Germany)
2018	Workshop on Nonlinear Stochastic Evolution Equations (Berlin, Germany)
2018	Mathematisches Kolloquium Universität Innsbruck (Innsbruck, Austria)
2018	Discretization in Geometry and Dynamics Conference (Berlin, Germany)
2018	Control of Self-Organizing Nonlinear Systems (Warnemünde, Germany)
2018	Dynamics Days Europe [2 talks] (Loughborough, UK)
2018	Workshop on Stochastic Population Models on Networks (Garching, Germany)
2018	Mathematisches Kolloquium Universiät Klagenfurt (Klagenfurt, Austria)
2018	Conference on Mathematics of Wave Phenomena (Karlsruhe, Germany)
2018	Seminar Talk: Technical University of Munich (Munich, Germany)
2018	Mathematisches Kolloquium Universiät Bremen (Bremen, Germany)
2018	SFB 1114: Scaling Cascades in Complex Systems (Berlin, Germany)
2018	SFB/TR 109 Introductory Seminar (Munich, Germany)
2018	Complexity Science Hub Vienna Annual Meeting (Vienna, Austria)
2018	Prediction of Transitions in Complex Systems (Dresden, Germany)
2018	GAMM Annual Meeting [2 talks] (Munich, Germany)
2018	Extremes2018 Conference (Hannover, Germany)
2017	IRTG 2235: Analysis of Singular and Random Systems (Bielefeld, Germany)
2017	Workshop on Random Dynamical Systems (Leiden, Netherlands)
2017	Joint Analysis Seminar Augsburg-München (Munich, Germany)
2017	GAMM PDE-AG Workshop (Eindhoven, Netherlands)
2017	Austrian Stochastics Days (Salzburg, Austria)
2017	DMV-ÖMG Annual Meeting [2 talks] (Salzburg, Austria)
2017	5th CliMathNet Conference (Reading, UK)
2017	Equadiff (Bratislava, Slovakia)
2017	European Nonlinear Dynamics Conference [3 talks] (Budapest, Hungary)
2017	Dynamical Systems and Geometric Mechanics Conference (Munich, Germany)
2017	SIAM Conference on Applications of Dynamical Systems (Snowbird, USA)
2017	SFB/TR 109 PI-Seminar, TU Munich (Munich, Germany)
2017	Rough Paths and SPDE Seminar, TU Berlin (Berlin, Germany)
2017	Langenbach Seminar, WIAS Berlin (Berlin, Germany)

2017	Fractional Differential Equations Mini-Workshop (Munich, Germany)
2017	GAMM Annual Meeting, UQ Section (Weimar, Germany)
2017	Antrittsvorlesung / Hurwitz-Seminar, TU Munich (Munich, Germany)
2016	SFB/TR 109, Annual Meeting (Berlin, Germany)
2016	Workshop on Multistability and Tipping, MPI-PKS (Dresden, Germany)
2016	Conference on Complex Systems (Amsterdam, Netherlands)
2016	Critical Transitions in Complex Systems Workshop (Kulhuse, Denmark)
2016	7th International Workshop on Set-Oriented Numerics (Berlin, Germany)
2016	ESI: Entropy methods, dissipative systems, and applications (Vienna, Austria)
2016	Mathematics Colloquium, University of Oldenburg (Oldenburg, Germany)
2016	ICBM Group Seminar, University of Oldenburg (Oldenburg, Germany)
2016	Haerendel Birthday Symposium (Bremen, Germany)
2016	Jacobs University Mathematics Colloquium (Bremen, Germany)
2015	Real Algebraic Geometry Seminar, University of Constance (Constance, Germany)
2015	Minisymposium on Multiscale and Stochastic Dynamics (Munich, Germany)
2015	MBI Workshop: Uncertainty, Sensitivity and Predictability (Columbus, USA)
2015	DMV Annual Meeting, Moment Problem Minisymposium (Hamburg, Germany)
2015	SciCADE, Molecular Dynamics Minisymposium (Potsdam, Germany)
2015	Dynamical Systems Seminar, Imperial College (London, UK)
2015	Applied Mathematics Colloquium, University of Nottingham (Nottingham, UK)
2015	Workshop on Dynamics of Multilevel Systems, MPI-PKS (Dresden, Germany)
2015	SIAM Conference on Applications of Dynamical Systems (Snowbird, USA)
2015	Joint Analysis Seminar Augsburg-München (Augsburg, Germany)
2015	GAMM-Workshop: Dynamik und Regelungstheorie (Hamburg, Germany)
2014	7th Workshop on Random Dynamical Systems (Bielefeld, Germany)
2014	Seminar Talk, TU Vienna (Vienna, Austria)
2014	Mathematics Colloquium, Jacobs University (Bremen, Germany)
2014	Workshop on Rhythms in Complex Networks at NBI (Copenhagen, Denmark)
2014	Control of Self-Organizing Nonlinear Systems (Warnemünde, Germany)
2014	SIAM Nonlinear Waves and Coherent Structures (Cambridge, UK)
2014	1st Spanish-Italian Mathematics Societies Meeting (Bilbao, Spain)
2014	8th European Nonlinear Dynamics Conference (Vienna, Austria)
2014	SFB/TR Discretization in Geometry and Dynamics - Seminar (Munich, Germany)

2014	Oberseminar Differentialgleichungen (Augsburg, Germany)
2014	IST Austria - Seminar (Klosterneuburg, Austria)
2014	MURPHYS-HSFS at WIAS (Berlin, Germany)
2014	ÖAW Mathematik-Informatik Workshop (Vienna, Austria)
2014	Max Planck Institute Symposium (Munich, Germany)
2014	Workshop on Infinite-Dimensional Stochastic Systems (Wittenberg, Germany)
2013	FAM Seminar at TU Vienna (Vienna, Austria)
2013	Workshop: Dynamic Models of Economic-Population Systems (Vienna, Austria)
2013	6th Workshop on Random Dynamical Systems (Bielefeld, Germany)
2013	DK Seminar - Dissipation and Dispersion in PDEs (Vienna, Austria)
2013	ICMS Workshop on Tipping Point Theory (Edinburgh, UK)
2013	Summer School: Numerical Methods for SDEs (Vienna, Austria)
2013	Max Planck Institute DS, Advances Seminar (Göttingen, Germany)
2013	Workshop on Fast-Slow Systems at CRM (Barcelona, Spain)
2013	SIAM Conference on Applications of Dynamical Systems (Snowbird, USA)
2013	University of Warwick Complexity Forum (Coventry, UK)
2013	University of Oldenburg ICBM Colloquium (Oldenburg, Germany)
2012	Patterns, Nonlinear Dynamics and Applications, PANDA (Bath, UK)
2012	University of Exeter, Dynamics Seminar (Exeter, UK)
2012	Workshop on Random Models in Neuroscience (Paris, France)
2012	Université d'Orléans, MAPMO Seminar (Orléans, France)
2012	Vienna University of Technology, Institute-Colloquium (Vienna, Austria)
2012	Tipping Points Seminar - Northwestern University (Online Meeting)
2012	Workshop on Critical Transitions in Complex Systems (London, UK)
2012	7th MathMod Conference (Vienna, Austria)
2011	Int. Workshop on Hysteresis and Slow-Fast Systems (Wittenberg, Germany)
2011	Max Planck Institute MIS, Dynamical Systems Seminar (Leipzig, Germany)
2011	Equadiff 2011, Singular Pertubations Minisymposium (Loughborough, UK)
2011	7th Int. Congress on Industrial and Applied Math. (Vancouver, Canada)
2011	Computational Methods in Dynamics (Trieste, Italy)
2011	Workshop on Generalized Modelling [CfD] (Dresden, Germany)
2011	Max Planck Institute - PKS Biophysics Seminar (Dresden, Germany)
2011	TU Chemnitz Nonlinear Dynamics Seminar (Chemnitz, Germany)

2010	Max Planck Institute - MIS Networks Meeting (Leipzig, Germany)	
2010	Max Planck Institute - PKS Time Series Seminar (Dresden, Germany)	
2010	4th Workshop on Random Dynamical Systems (Bielefeld, Germany)	
2010	Max Planck Institute - PKS Networks Seminar (Dresden, Germany)	
2010	University of Bielefeld, Numerics Seminar (Bielefeld, Germany)	
2010	SIAM Emerging Topics in Dynamical Systems & PDEs (Barcelona, Spain)	
2010	8th AIMS Conference (Dresden, Germany)	
2010	Boston University, Dynamics Seminar (Boston, USA)	
2010	Max Planck Institute - MIS (Leipzig, Germany)	
2010	University of Bristol, BCANM Seminar (Bristol, UK)	
2010	TU Vienna, Analysis and Scientific Computing Seminar (Vienna, Austria)	
2010	FU Berlin, Nonlinear Dynamics Seminar (Berlin, Germany)	
2009	Max-Planck Institute for Physics of Complex Systems (Dresden, Germany)	
2009	Jacobs University, Geometry and Dynamics Seminar (Bremen, Germany)	
CONTRIBUTED TALKS & POSTER PRESENTATIONS		
2024	Dynamics Days Europe (Bremen, Germany)	
2018	Oberseminar Dynamics (Munich, Germany)	
2018	Munich-Vienna Fractional Meeting (Munich, Germany)	
2016	Workshop on Numerics of SPDEs (Linz, Austria)	
2015	DMV Annual Meeting (Hamburg, Germany)	
2015	SciCADE (Potsdam, Germany)	
2015	Equadiff (Lyon, France)	
2014	3rd Austrian Stochastics Days (Leoben, Austria)	
2014	SIAM Nonlinear Waves and Coherent Structures (Cambridge, UK)	
2014	10th Austrian Numerical Analysis Days (Vienna, Austria)	
2014	GAMM Annual Meeting (Erlangen, Germany)	
2014	German Probability and Statistics Days (Ulm, Germany)	
2012	TU Vienna - Graduate PDE Seminar, (Vienna, Austria)	
2012	1st Austrian Stochastics Days, (Linz, Austria)	
2012	Mathematical Physics of Complex Networks (Dresden, Germany)	
2011	Dynamics Days Europe 2011 (Oldenburg, Germany)	
2011	SIAM Conference on Applications of Dynamical Systems (Snowbird, USA)	
2011	75th DPG Annual Meeting, (Dresden, Germany)	

2010	Extremes 2010 Workshop, (Potsdam, Germany)	
2010	Cornell University, Graduate Applied Dynamics Seminar (Ithaca, USA)	
2009	Cornell University, Graduate Applied Dynamics Seminar (Ithaca, USA)	
2009	Dynamics Days Europe (Göttingen, Germany)	
2009	SIAM Conference on Applications of Dynamical Systems (Snowbird, USA) [Poster]	
2009	Cornell University, Graduate Applied Dynamics Seminar (Ithaca, USA)	
2009	Cornell University, Dynamical Systems Seminar (Ithaca, USA)	
2008	Cornell University, Graduate Applied Dynamics Seminar (Ithaca, USA)	
2008	10th Experimental Chaos Conference (Catania, Italy) [Poster]	
2008	Cornell University, Dynamical Systems Seminar (Ithaca, USA)	
SCIENCE COMMUNICATION & PROFESSIONAL DEVELOPMENT		
2024	BeyondTheEdge Newsletter December 2024 Presented TUM profile and action within Marie-Curie Network, with F. Murphy	
2024	Poster at TUM Sustainability Day Presented mathematics for climate tipping points, with P. Bernuzzi	
2024	Featured Article in "Faszination Forschung" EU project Tipping Points in the Earth System TiPES, with N. Boers	
2023	Invited Speaker at VolkswagenStiftung Professional team development in science	
2022–now	Online platform MunDyn (under development) community website for the greater Munich area	
2022–now	Online platform for dynamical systems (under development) visualization and interactive dynamics	
2021–now	<i>Youtube Channel</i> Online science talks of 'Multiscale and Stochastic Dynamics" group	
2021	TUM - press release Topic: Universal equation for explosive phenomena Coverage: Tipping Points in the Earth Systems website Coverage: Informationsdienst Wissenschaft Coverage: Department of Mathematics, TUM	
2020	Fakultät Mathematik Website - press release Topic: One World Dynamics Seminar launched	
2020	Fakultät Mathematik Website - press release Topic: Imperial College London / TUM Mathematical Sciences Hub launched	
2019	TUM Graduate School "Kick-Off Seminar" (Raitenhaslach, Germany) Keynote Speaker; lecture for beginning doctoral students	
2019	Fakultät Mathematik Website - press release Topic: TiPES - When does the climate change?	

2019	TUM "Studieninformationstag" (Munich, Germany) Invited Speaker / Workshop-Leader; mathematics for high-school students
2018	TUM Blog "Studium & Lehre" (Munich, Germany) Invited interview for: <i>Nachgefragt</i>
2017	TUM Mathematics "Open House Event" (Munich, Germany) Invited Speaker; lecture for the general public
2017	TUM Mathematics "Development Workshop" (Munich, Germany) Invited Panelist; topic: presenting at conferences
2017	TUM "Schülertag" (Munich, Germany) Invited Speaker / Workshop-Leader; mathematics for high-school students
2016	TU/Uni Vienna Doctoral School Workshop (Reichenau an der Rax, Austria) Invited Speaker; topic: postdoc opportunities for doctoral students
2015–now	Practical Science Blog - Founder/Writer practicalscienceblog.wordpress.com
2014	Oxford University Press - invited blog "Special events and the dynamical statistics of Twitter"

### SUMMER SCHOOLS / SPECIAL WORKSHOPS (AS STUDENT/POSTDOC)

- 2013: Selected Participant IdeaLab for Early Career Researchers Institute for Computational and Experimental Research in Mathematics (ICERM, USA)
- 2007: Selected Participant AARMS Summer School, (Dalhousie University, Canada) Took two graduate-level courses
- 2007: Selected Participant NEEDS School School/Workshop (Bellaterra, Spain) Nonlinear Evolution Equations and Dynamical Systems
- 2006: Selected Participant Jyväskylä Summer School (University of Jyväskylä, Finland) Took two graduate-level courses
- 2005: Selected Participant AARMS Summer School, (Dalhousie University, Canada) Took two graduate-level courses

### MEMBERSHIPS

- Deutsche Mathematiker-Vereinigung (DMV) - Member: Fachgruppe Stochastik
- Deutscher Hochschulverband
- European Mathematical Society (EMS)
- Gesellschaft für Angewandte Mathematik und Mechanik (GAMM) - Activity group member: Dynamics and Control
  - Activity group member: Partial Differential Equations
  - Activity group member: Uncertainty Quantification
- Society for Industrial and Applied Mathematics (SIAM)
  - SIAG member: Analysis of Partial Differential Equations
  - SIAG member: Dynamical Systems
  - SIAG member: Life Sciences
  - SIAG member: Nonlinear Waves and Coherent Structures
  - SIAG member: Uncertainty Quantification

### LANGUAGE SKILLS

English - fluent, French - working knowledge, German - mother tongue

### **COMPUTER SKILLS**

- *Programming*: Python, C++, Fortran77, Fortran90, C, Pascal
- Operating Systems: MS Windows, Linux, Sun Solaris
- *Mark-Up Languages*: LATEX, html
- Mathematical Software Packages: Numpy/Scipy/Fenics, MatLab/Octave, Mathematica, Maple
- Specialized Mathematical Software: AUTO, MatCont, ESATAN, MCLite, PLTMG, pde2path
- Other Software: Dreamweaver, OpenOffice, MS Office, Fireworks, kompozer

#### **BOOKS:**

- B2 *"PDE Dynamics: An Introduction"*C. Kuehn, 267 pages, SIAM, 2019
  in the series: Mathematical Modeling and Computation
- B1 *"Multiple Time Scale Dynamics"*C. Kuehn, 814 pages, Springer, 2015 in the series: Applied Mathematical Sciences

#### **JOURNAL PUBLICATIONS (REFEREED):**

- J142 "On the transition between autonomous and non-autonomous systems: the case of FitzHugh-Nagumo's model"
  I. Longo, E. Queirolo and C. Kuehn Chaos: An Interdisciplinary Journal of Nonlinear Science, Vol. 34, No. 12, 123171, 2024
- J141 "Warning signs for boundary noise and their application to an ocean Boussinesq model"
   P. Bernuzzi, H.A. Dijkstra and C. Kuehn
   Physica D, Vol. 470, 134391, 2024
- J140 "Geometric analysis of fast-slow PDEs with fold singularities via Galerkin discretisation"
  M. Engel, F. Hummel, C. Kuehn, N. Popović, M. Ptashnyk and T. Zacharis Nonlinearity, Vol. 37, No. 11, 115017, 2024
- J139 "Uncertainty quantification analysis of bifurcations of the Allen-Cahn equation with random coefficients"
   C. Kuehn, C. Piazzola and E. Ullmann Physica D, Vol. 470, Part A, 134390, 2024
- J138 "Extending discrete geometric singular perturbation theory to non-hyperbolic points"
   S. Jelbart and C. Kuehn Nonlinearity, Vol. 37, No. 10, 105006, 2024
- J137 "Geometric analysis of a truncated Galerkin discretization of fast-slow PDEs with transcritical singularities" M. Engel and C. Kuehn SIAM Journal on Applied Dynamical Systems, Vol.23, No. 4, pp. 2853-2898, 2024
- J136 *"The hyperbolic umbilic singularity in fast-slow systems"*H. Jardon Kojakhmetov, C. Kuehn and M. Steinert Nonlinearity, Vol.37, No. 9, 095036, 2024
- J135 "Public Transport across Models and Scales: A Case Study of the Munich Network"
   J. Mölter, J. Ji, B. Lienkamp, Q. Zhang, A.T. Moreno, M. Schiffer, R.Moeckel and C. Kuehn PNAS Nexus, Vol. 3, No. 11, 489, 2024
- J134 "Higher-order interactions in phase oscillator networks through phase reductions of oscillators with phase dependent amplitude"
  C. Bick, T. Böhle and C. Kuehn Journal of Nonlinear Science, Vol. 34, No. 77, pp. 1-35, 2024

- J133 *"Travelling waves for discrete stochastic bistable equations"* C. Geldhauser and C. Kuehn
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### **PREPRINTS:**

For a complete list of current preprints, please consider my website: *http://www.multiscale.systems/publications.html* 

### **LECTURE NOTES:**

- L4 *"Stochastic Dynamics"* C. Kuehn lecture notes, 70 pp., under development
- L3 *"Introduction to Adaptive Network Dynamics"* C. Kuehn lecture notes, 45 pp., under development
- L2 "Dynamical Systems I: ODE Basics & Nonlinear Dynamics" C. Kuehn lecture notes, 75 pp., AMS Open Math Notes
- L1 *"Dynamical Systems II: A Concise Graduate Course"* **C. Kuehn** lecture notes, 125 pp., AMS Open Math Notes

### **OTHER WRITINGS:**

- E2 "Nonlinear Uncertainty Quantification for Random ODEs"
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   SIAM DSWeb Expository Article (invited), August 2022
- V2 Book Review of "Hidden Dynamics" (by M.R. Jeffrey)
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- V1 Book Review of "Network Science" (by A.-L. Barabasi)
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- T4 "Multiscale Dynamical Systems: Analysis and Numerics"
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- E1 *"The curse of instability"*C. Kuehn Complexity, (section: 'Simply Complex'), Vol. 20, No. 6, pp. 9-14, 2015
- T3 "Multiple Time Scale Dynamics with Two Fast Variables and One Slow Variable"
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- T2 "Introduction to Potential Theory via Applications"C. KuehnPart III essay, University of Cambridge, 2006
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