

Name: **Christian Kuehn**
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EMPLOYMENT

2016 – now Technical University of Munich, Germany
Lichtenberg Professor for “Multiscale and Stochastic Dynamics”
also: W2 Assistant Professorship

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
Privatdozent (Priv.-Doz.) “*venia docendi*”
Habilitation in Applied Mathematics

2008 – 2010 Cornell University, United States of America
Doctor of Philosophy (PhD) in Applied Mathematics 2010
Advisor: Professor John Guckenheimer

2006 – 2008 Cornell University, United States of America
Master of Science (MSc) in Applied Mathematics 2008
Average Grade 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
Bachelor of Science (BSc) in Mathematics 2005
Average grade 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)

- 2020 - 2021: Distinguished Visiting Professorship
Foundation Sciences Mathématiques de Paris
Recipient: C. Kuehn (3 months between August 2020 & March 2021)
- 2020 - 2021: TUM Foundation Fellowship
(postdoc) Dr. Chuang Xu
(co-PI / host C. Kuehn)
- 2020 - 2023: Synchronization in Co-Evolutionary Network Dynamics
TUM International Graduate School of Science and Engineering
(PI: C. Kuehn, one TUM doctoral position)
(co-PI E. Martens (DTU), one doctoral position at DTU)
- 2020 - 2021: John-von-Neumann Professorship
Recipient: Professor Martin Rasmussen
(host: C. Kuehn)
- 2019 - 2021: EuroTech Postdoctoral Fellowship
(postdoc) Dr. Iacopo Longo
(co-PI / 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: 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: 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
(postdoc) Dr. Cinzia Soresina
(co-PI / 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 - 2021: AvH: Humboldt Research Fellowship
(postdoc) Dr. Hildeberto Jardon-Kojakhmetov
(co-PI / host C. Kuehn)
- 2019 - 2021: EuroTech Postdoctoral Fellowship
(postdoc) Dr. Hildeberto Jardon-Kojakhmetov
(co-PI / host C. Kuehn; declined due to AvH Fellowship)
- 2018 - 2019: TUM Foundation Fellowship
(postdoc) Dr. Hildeberto Jardon-Kojakhmetov
(co-PI / host C. Kuehn)

- 2017 - 2020: D-A-CH Individual Project Grant
German Science Foundation (DFG) & Austrian Science Fond (FWF)
(PI, co-PIs N. Zamponi & A. Jüngel)
- 2017 - 2021: Collaborative Research Center SFB/TR 109
German Science Foundation (DFG)
(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: Individual Project Grant
Austrian Science Fond (FWF)
(PI, co-PI S. Thurner, transferred to MedUni Wien)
- 2016 - 2021: Lichtenberg Professorship Grant
Volkswagen Foundation
(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: APART Fellowship - Austrian Academy of Sciences (ÖAW)
Austrian Programme for Advanced Research and Technology
(PI)
- 2013: Leibniz Fellowship
Mathematisches Forschungsinstitut Oberwolfach (MFO)
(PI, 10 weeks fully financed research stay at MFO)
- 2011 - 2015: European Commission Marie-Curie Re-integration Grant
hosted by: P. Szmolyan, Vienna University of Technology
(PI)
- 2011: DAAD travel grant to attend ICIAM 2011
(PI)

AWARDS & GRANTS (PRE-DOCTORAL LEVEL)

- 2010: Travel grant for conference: "The 8th 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 Systems"

- 2007: Selection & Grant for "AARMS Summer School 2007"
- 2006: JSS Scholarship & Travel Grant to attend the 16th 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

- 2021: Organization (with M. Beck, M. Chirilus-Bruckner, J. Rademacher) of a workshop
Title: *Dynamics of Patterns* (40 talks) [* upcoming]
at the Mathematisches Forschungsinstitut Oberwolfach [MFO] (Oberwolfach, Germany)
- 2020: Conference organizer (with C. Bick, K. Tsaneva-Atanasova)
Conference: *Theory of Network Dynamics* (20 talks) [* upcoming]
at TUM Institute for Advanced Study (Munich, Germany)
- 2020: Organization (jointly with H. Jardon-Kojakhmetov) of a mini-symposium
Title: *Fast-Slow Systems* (8 talks) [* upcoming]
at the Dynamics Days Europe (Nice, France)
- 2020: Organization (jointly with I. Longo) of a mini-symposium
Title: *Nonautonomous Bifurcation Theory* (4 talks) [* upcoming]
at the Dynamics Days Europe (Nice, France)
- 2020: Organization (jointly with M. Gnann) of a mini-symposium
Title: *Stochastic Pattern Dynamics* (8 talks) [* upcoming]
at the SIAM NWCS Conference (Bremen, Germany)
- 2020: Workshop organizer (jointly with M. Engel and A. Neamtu)
Workshop on *Methods in Stochastic Dynamics* (16 talks) [* upcoming]
at Complexity Science Hub Vienna (Vienna, Austria)
- 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) [* upcoming]
at the SIAM UQ Conference (Garching, Germany)
- 2020: Workshop organizer
TUM ICL Mathematics Workshop (10 talks) [* upcoming]
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
- 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
- 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 Difference Equations
 - AIP Advances
 - American Naturalist
 - 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
 - European Biophysics Journal
 - European Physical Journal B
 - 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 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 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 and Computers in Simulation
- Mathematics and Mechanics of Solids
- Mathematische Nachrichten
- Memoirs of the American Mathematical Society
- 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 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
- Theoretical Ecology
- Theoretical Population Biology
- Zeitschrift für Angewandte Mathematik und Physik

- Reviewer (books):
 - Springer Mathematics - Applied Mathematical Sciences
 - Springer Mathematics - Monographs
 - Springer Physics - Edited Volumes
- Reviewer (funding agencies & institutes):
 - Banff International Research Station, Canada
 - Croatian Science Foundation (CSF), Croatia
 - Deutsche Forschungsgemeinschaft (DFG), Germany
 - Dynasty Foundation, Russia
 - German Academic Exchange Service (DAAD), Germany
 - National Science Centre (NCN), Poland
 - Natural Sciences and Engineering Research Council (NSERC), Canada
 - Netherlands Organisation for Scientific Research (NWO), Netherlands
 - 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 Höhle, TUM (Department of Physics)
 - 2020 Christian Aarset, University of Klagenfurt [* upcoming]
 - 2020 Jichen Yang, University of Bremen [* upcoming]
 - 2020 Günter Schneckenreither, TU Wien [* upcoming]

MENTORING

- Postdoctoral Researcher: Maxime Breden
- Postdoctoral Researcher: Maximilian Engel
- Postdoctoral Researcher: Manuel Gnann
- Postdoctoral Researcher: Leonhard Horstmeyer (jointly with S. Thurner)
- Postdoctoral Researcher: Felix Hummel
- Postdoctoral Researcher: Hildeberto Jardón-Kojakhmetov
- Postdoctoral Researcher: Iacopo Longo
- Postdoctoral Researcher: Chris Münch (jointly with M. Brokate)
- Postdoctoral Researcher: Alexandra Neamtu
- Postdoctoral Researcher: Nada Sissouno (jointly with F. Krahmer)
- Postdoctoral Researcher: Cinzia Soresina
- Postdoctoral Researcher: Sebastian Throm
- Doctoral Student: Luca Arcidiacono
- Doctoral Student: Tobias Böhle
- Doctoral Student: Maria Elena Gonzalez
- Doctoral Student: Anne Pein

- Master Student: Luca Arcidiacono
- Master Student: Tobias Böhle
- Master Student: Andreas Burkhart (jointly with H. Jardon)
- Master Student: Matteo Cirachi
- Master Student: Noémie Ehstand (jointly with C. Soresina)
- Master Student: Katharina Eichinger (jointly with A. Neamtu)
- Master Student: Manuel Fuchsberger (jointly with M. Scherer)
- Master Student: Marios Gkogkas (jointly with M. Engel)
- Master Student: Maria Elena Gonzalez
- Master Student: Tobias Jawecki
- Master Student: Michael Klausz (jointly with K. Glau)
- Master Student: Hana Krakovská (jointly with I. Longo)
- Master Student: Harsha Kumar (jointly with H. Jardon)
- Master Student: Polina Lakrisenko (jointly with M. Breden)
- Master Student: Merlin Pelz (jointly with M. Silber)
- Master Student: Francesco Romano
- Master Student: Elisabeth Schiessler (jointly with A. Jüngel)
- Master Student: Frieder Simon (jointly with P. Szmolyan)
- Master Student: Maximilian Steinert
- Master Student: Thomas Steinhofer (jointly with M. Engel)
- Master Student: Julian Westermeier
- Master Student: Dominik Worf
- Bachelor Student: Luca Arcidiacono
- Bachelor Student: Philippe Biberich
- Bachelor Student: Tobias Böhle
- Bachelor Student: Stefanie Ecker
- Bachelor Student: Maria Elena Gonzalez
- 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: Julian Streit
- Bachelor Student: Maximilian Windsheimer (jointly with L. Arcidiacono)

TEACHING (AS A PROFESSOR)

- 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)
- 2016 Lecture: “Dynamical Systems and Partial Differential Equations” - TUM

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
2nd-year undergraduate course: Numerical Methods
- 2004 Internship - ONVIDA GmbH (Duisburg, Germany)
- 2003 Internship - EADS Space Transportation (Bremen, Germany)

MAJOR PLENARY TALK

- 2017 GAMM Annual Meeting (Weimar, Germany)
"Multiscale Dynamics near Instability"

INVITED TALKS (* = UPCOMING)

- 2020 * Dynamics Days Europe (Nice, France)
- 2020 * SIAM Nonlinear Waves and Coherent Structures (Bremen, Germany)
- 2020 * Computational Methods in Applied Mathematics CMAM-9 (Vienna, Austria)
- 2020 * European Nonlinear Dynamics Conference [3 talks] (Lyon, France)
- 2020 * Edinburgh-Vienna Workshop on Advances in PDEs (Vienna, Austria)
- 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 Universität Klagenfurt (Klagenfurt, Austria)
- 2018 Conference on Mathematics of Wave Phenomena (Karlsruhe, Germany)
- 2018 Seminar Talk: Technical University of Munich (Munich, Germany)
- 2018 Mathematisches Kolloquium Universität 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 Perturbations 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

- 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

- 2019 Fakultät Mathematik Website - press release
Thema: TUM-ICL Workshop
- 2019 TUM Graduate School "Kick-Off Seminar" (Raitenhaslach, Germany)
Keynote Speaker; lecture for beginning doctoral students
- 2019 Fakultät Mathematik Website - press release
Thema: TiPES - Wann kippt das Klima?
- 2019 TUM "Studieninformationstag" (Munich, Germany)
Invited Speaker / Workshop-Leader; mathematics for high-school students
- 2018 TUM Blog "Studium & Lehre" (Munich, Germany)
Invited interview for: *Nachgefragt*
- 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

- Complex Systems Society (CSS)
- 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
- Mathematics and Climate Research Network (MCRN)
- Österreichische Mathematische Gesellschaft (ÖMG)
- 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, C, Pascal
- *Operating Systems*: MS Windows, Linux, Sun Solaris
- *Mark-Up Languages*: L^AT_EX, 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):

- J66 *"Sample paths estimates for stochastic fast-slow systems driven by fractional Brownian motion"*
 K. Eichinger, **C. Kuehn** and A. Neamtu
 Journal of Statistical Physics, accepted / to appear, 2020
- J65 *"Geometry and numerical continuation of multiscale orbits in a nonconvex variational problem"*
 A. Iuorio, **C. Kuehn** and P. Szmolyan
 Discrete and Continuous Dynamical Systems S, Vol. 13, No. 2, 2020
- J64 *"Mathematical analysis of nonlocal PDEs for network generation"*
 T. Böhle and **C. Kuehn**
 Mathematical Modelling of Natural Phenomena, Vol. 14, No. 5, 506, 2019
- J63 *"Travelling waves in monostable and bistable stochastic partial differential equations"*
C. Kuehn
 Jahresbericht der Deutschen Mathematiker-Vereinigung, accepted / to appear, 2019
- J62 *"Discretized fast-slow systems near pitchfork singularities"*
 L. Arcidiacono, M. Engel and **C. Kuehn**
 Journal of Difference Equations and Applications, Vol. 25, No. 7, pp. 1024-1051, 2019
- J61 *"A survey on the blow-up method for fast-slow systems"*
 H. Jardon Kojakhmetov and **C. Kuehn**
 Contemporary Mathematics, AMS, accepted / to appear, 2019
- J60 *"A gradient flow formulation for the stochastic Amari model"*
C. Kuehn and J. Tölle
 Journal of Mathematical Biology, Vol. 79, No. 4, pp. 1227-1252, 2019
- J59 *"Power network dynamics on graphons"*
C. Kuehn and S. Throm
 SIAM Journal on Applied Mathematics, Vol. 79, No. 4, pp. 1271-1292, 2019
- J58 *"Random switching near bifurcations"*
C. Kuehn and T. Hurth
 Stochastics and Dynamics, accepted / to appear, 2019
- J57 *"Smoluchowski's coagulation equation with forcing"*
C. Kuehn and S. Throm
 Nonlinear Differential Equations and Applications (NoDEA), Vol. 26, No. 3, 17, 2019

- J56 *"Discretized fast-slow systems near transcritical singularities"*
M. Engel and **C. Kuehn**
Nonlinearity, Vol. 32, No. 7, 2365, 2019
- J55 *"Multiscale Dynamics of an Adaptive Catalytic Network"*
C. Kuehn
Mathematical Modelling of Natural Phenomena, Vol. 14, No. 4, 402, 2019
- J54 *"Rigorous Validation of Stochastic Transition Paths"*
M. Breden and **C. Kuehn**
Journal de Mathématiques Pures et Appliquées, Vol. 131, pp. 88-129, 2019
- J53 *"Duck traps: two-dimensional critical manifolds in planar systems"*
C. Kuehn and C. Münch
Dynamical Systems: An International Journal, Vol. 34, No. 4, pp. 584-612, 2019
- J52 *"Pattern formation in the doubly-nonlocal Fisher-KPP equation"*
C. Kuehn and P. Tkachov
Discrete and Continuous Dynamical Systems A, Vol. 39, No. 4, pp. 2077-2100, 2019
- J51 *"Towards sample path estimates for fast-slow SPDEs"*
M. Gnann, **C. Kuehn** and A. Pein
European Journal of Applied Mathematics, Vol. 30, No. 5, pp. 1004-1024, 2019
- J50 *"Scaling laws and warning signs for bifurcations of SPDEs"*
C. Kuehn and F. Romano
European Journal of Applied Mathematics, Vol. 30, No. 5, pp. 853-868, 2019
- J49 *"Network topology near criticality in adaptive epidemics"*
L. Horstmeyer, **C. Kuehn** and S. Thurner
Physical Review E, Phys. Rev. E, Vol. 98, 042313, 2018
- J48 *"A note on kernel methods for multiscale systems with critical transitions"*
B. Hamzi, **C. Kuehn** and S. Mohammed
Mathematical Methods in the Applied Sciences, Vol. 42, No. 3, pp. 907-917, 2019
- J47 *"Validity of amplitude equations for nonlocal nonlinearities"*
C. Kuehn and S. Throm
Journal of Mathematical Physics, Vol. 59, 071510, 2018
- J46 *"Analysis and predictability for tipping points with leading-order nonlinear terms"*
F. Romano and **C. Kuehn**
International Journal of Bifurcation and Chaos, Vol. 28, No. 8, 1850103, 2018
- J45 *"Early warning signs for bifurcations with bounded noise"*
C. Kuehn, G. Malavolta and M. Rasmussen
Journal of Mathematical Analysis and Applications, Vol. 464, pp. 58-77, 2018
- J44 *"Tracking particles in flows near invariant manifolds via balance functions"*
C. Kuehn, F. Romano and H.C. Kuhlmann
Nonlinear Dynamics, Vol. 92, No. 3, pp. 983-1000, 2018

- J43 *"Stochastic mixed-mode oscillations in a three-species predator-prey model"*
 S. Sadhu and **C. Kuehn**
 Chaos: An Interdisciplinary Journal of Nonlinear Science, Vol. 28, No. 3, 033606, 2018
- J42 *"Quenched noise and nonlinear oscillations in bistable multiscale systems"*
 (*) **C. Kuehn**
 EPL (Europhysics Letters), Vol. 120, 10001, 2017
- J41 *"Generalized play hysteresis operators as limits of fast-slow systems"*
C. Kuehn and C. Münch
 SIAM Journal on Applied Dynamical Systems, Vol. 16, No. 3, pp. 1650-1685, 2017
- J40 *"Model Spaces of Regularity Structures for Space-Fractional SPDEs"*
 N. Berglund and **C. Kuehn**
 Journal of Statistical Physics, Vol. 168, No. 2, pp. 331-368, 2017
- J39 *"Uncertainty transformation via Hopf bifurcation in fast-slow systems"*
C. Kuehn
 Proceedings of the Royal Society A, Vol. 473, 20160346, 2017
- J38 *"Continuation of probability density functions using a generalized Lyapunov approach"*
 S. Baars, J.P. Viebahn, T.E. Mulder, **C. Kuehn**, F.W. Wubs and H.A. Dijkstra
 Journal of Computational Physics, Vol. 336, No. 1, pp. 627643, 2017
- J37 *"A meeting point of entropy and bifurcations in cross-diffusion herding"*
 A. Jüngel, **C. Kuehn** and L. Trussardi
 European Journal of Applied Mathematics, Vol. 28, No. 2, pp. 317-356, 2017
- J36 *"A dynamical systems' approach for the contact-line singularity in thin-film flows"*
 F.B. Belgacem, M. Gnann and **C. Kuehn**
 Nonlinear Analysis A: Theory, Methods & Applications, Vol. 144, pp.204-235, 2016
- J35 *"A numerical framework to understand transitions in high-dimensional stochastic dynamical systems"*
 H.A. Dijkstra, A. Tantet, J. Viebahn, E. Mulder, M. Hebbink, D. Castellane,
 H. van der Pol, J. Frank, S. Baars, F. Wubs, M. Chekroun, **C. Kuehn**
 Dynamics and Statistics of the Climate System, Vol. 1, No. 1, dzw003, 2016
- J34 *"Heterogeneous population dynamics and scaling laws near epidemic outbreaks"*
 A. Widder and **C. Kuehn**
 Mathematical Biosciences & Engineering, Vol. 13, No. 5, pp.1093-1118, 2016
- J33 *"FitzHugh-Nagumo SPDEs in three space dimensions driven by space-time white noise"*
 (*) N. Berglund and **C. Kuehn**
 Electronic Journal of Probability, Vol. 21, No. 18, pp. 1-48, 2016
- J32 *"A remark on geometric desingularization of a non-hyperbolic point using hyperbolic space"*
C. Kuehn
 Journal of Physics: Conference Series, Vol. 727, 012008, 2016
- J31 *"Numerical continuation and SPDE Stability for the 2D cubic-quintic Allen-Cahn equation"*
C. Kuehn
 SIAM/ASA Journal on Uncertainty Quantification, Vol. 3, No. 1, pp. 762-789, 2015

- J30 *"Predictability of Critical Transitions"*
 X. Zhang, S. Hallerberg and **C. Kuehn**
 Physical Review E, Vol. 92, 052905, 2015
- J29 *"Traveling waves for bistable evolution equations with nonlocal-diffusion"*
 F. Achleitner and **C. Kuehn**
 Advances in Differential Equations, Vol. 20, No. 9-10, pp. 887-936, 2015
- J28 *"Efficient gluing of numerical continuation and a multiple solution method for elliptic PDEs"*
C. Kuehn
 Applied Mathematics and Computation, Vol. 266, pp. 656-674, 2015
- J27 *"Multiscale geometry of the Olsen model and non-classical relaxation oscillations"*
 (*) **C. Kuehn** and P. Szmolyan
 Journal of Nonlinear Science, Vol. 25, No. 3, pp. 583-629, 2015
- J26 *"Early warning signs for saddle-escape transitions in complex networks"*
C. Kuehn, G. Zschaler and T. Gross
 Scientific Reports, Vol. 5, 13190, 2015
- J25 *"From random Poincaré maps to stochastic mixed-mode-oscillation patterns"*
 (*) N. Berglund, B. Gentz and **C. Kuehn**
 Journal of Dynamics and Differential Equations, Vol. 27, No. 1, pp. 83-136, 2015
- J24 *"Critical slowing down governs the transition to neuron spiking"*
 C. Meisel, A. Klaus, **C. Kuehn** and D. Plenz
 PLoS Computational Biology, Vol. 11, No. 2, e1004097, 2015
- J23 *"Analysis and numerics of travelling waves for asymmetric fractional reaction-diffusion equations"*
 F. Achleitner and **C. Kuehn**
 Communications in Applied and Industrial Mathematics, Vol. 6, No. 2, e-532, pp. 1-25, 2015
- J22 *"On bounded positive stationary solutions for a nonlocal Fisher-KPP Equation"*
 (*) F. Achleitner and **C. Kuehn**
 Nonlinear Analysis A: Theory, Methods & Applications, Vol. 112, pp. 15-29, 2015
- J21 *"Warning signs for pattern-formation in SPDEs"*
 K. Gowda⁺ and **C. Kuehn**⁺ [⁺equal contribution]
 Communications in Nonlinear Science & Numerical Simulation, Vol. 22, pp. 55-69, 2015
- J20 *"Normal hyperbolicity and unbounded critical manifolds"*
C. Kuehn
 Nonlinearity, Vol. 27, No. 6, pp. 1351-1366, 2014
- J19 *"Large deviations for nonlocal stochastic neural fields"*
C. Kuehn and M. Riedler
 Journal of Mathematical Neuroscience, Vol. 4, No. 1, pp. 1-33, 2014
- J18 *"Critical transitions in social network activity"*
C. Kuehn⁺, E. Martens⁺ and D. Romero [⁺equal contribution]
 Journal of Complex Networks, Vol. 2, No. 2, pp. 141-152, 2014

- J17 *"A mathematical framework for critical transitions: normal forms, variance and applications"*
 (*) **C. Kuehn**
 Journal of Nonlinear Science, Vol. 23, No. 3, pp. 457-510, 2013
- J16 *"Nonlocal generalized models of predator-prey systems"*
C. Kuehn and T. Gross
 Discrete and Continuous Dynamical Systems B, Vol. 18, No. 3, pp. 693-720, 2013
- J15 *"Warning signs for wave speed transitions of noisy Fisher-KPP invasion fronts"*
C. Kuehn
 Theoretical Ecology, Vol. 6, No. 3, pp. 295-308, 2013
- J14 *"Dynamical analysis of evolution equations in generalized models"*
C. Kuehn, S. Siegmund and T. Gross
 IMA Journal of Applied Mathematics, Vol. 78, No. 5, pp. 1051-1077, 2013
- J13 *"Deterministic continuation of stochastic metastable equilibria via Lyapunov equations and ellipsoids"*
 (*) **C. Kuehn**
 SIAM Journal on Scientific Computing, 34(3), pp. A1635-A1658, 2012
- J12 *"Time-scale and noise optimality in self-organized critical adaptive networks"*
C. Kuehn
 Physical Review E, Vol. 85, No. 2, 026103, 2012
- J11 *"Mixed mode oscillations with multiple time scales"*
 (*) M. Desroches, J. Guckenheimer, B. Krauskopf, **C. Kuehn**, H. Osinga and M. Wechselberger
 SIAM Review, Vol. 54, No. 2, pp. 211-288, 2012
- J10 *"Hunting French ducks in a noisy environment"*
 (*) N. Berglund, B. Gentz and **C. Kuehn**
 Journal of Differential Equations, Vol. 252, No. 9, pp. 4786-4841, 2012
- J9 *"Scaling effects and spatio-temporal multilevel dynamics in epileptic seizures"*
 C. Meisel⁺ and **C. Kuehn**⁺ [⁺equal contribution]
 PLoS ONE, Vol. 7, No. 2, e30371, 2012
- J8 *"On decomposing mixed-mode oscillations and their return maps"*
C. Kuehn
 Chaos: An Interdisciplinary Journal of Nonlinear Science, Vol. 21, No. 3, 033107, 2011
- J7 *"A mathematical framework for critical transitions: bifurcations, fast-slow systems and stochastic dynamics"*
 (*) **C. Kuehn**
 Physica D: Nonlinear Phenomena, Vol. 240, No. 12, 1020-1035, 2011
- J6 *"Connecting fast-slow systems and Conley index theory via transversality"*
C. Kuehn
 Electronic Journal of Differential Equations, Vol. 2010, No. 106, pp. 1-20, 2010
- J5 *"From first Lyapunov coefficients to maximal canards"*
C. Kuehn
 International Journal of Bifurcation and Chaos, Vol. 20, No. 5, pp. 1467-1475, 2010

- J4 *"Homoclinic orbits of the FitzHugh-Nagumo equation: bifurcations in the full system"*
 J. Guckenheimer and **C. Kuehn**
 SIAM Journal on Applied Dynamical Systems, Vol. 9, No. 1, pp. 138-153, 2010
- J3 *"Computing slow manifolds of saddle-type"*
 J. Guckenheimer and **C. Kuehn**
 SIAM Journal on Applied Dynamical Systems, Vol. 4, No. 3, pp. 854-879, 2009
- J2 *"Homoclinic orbits of the FitzHugh-Nagumo equation: the singular limit"*
 J. Guckenheimer and **C. Kuehn**
 Discrete and Continuous Dynamical Systems S, Vol. 2, No. 4, pp. 851-872, 2009
- J1 *"Scaling of saddle-node bifurcations: degeneracies and rapid quantitative changes",*
C. Kuehn
 Journal of Physics A: Mathematical and Theoretical, Vol. 42, No. 4, 045101, 2009

BOOK CHAPTERS:

- C2 *"Dynamics of stochastic reaction-diffusion equations"*
C. Kuehn and A. Neamtu
 in: Finite and Infinite Dimensional Stochastic Equations with Applications to Physics
 (editors: H. Lisei & W. Grecksch), Wiley, pp. 1-55, 2020
- C1 *"Moment closure - A brief review"*
C. Kuehn
 in: Self-Organizing Complex Systems, eds: E. Schöll, S. Klapp and P. Hövel
 Springer, pp. 253-271, 2015

OTHER WRITINGS:

- V1 Book Review of "Network Science" (by A.-L. Barabasi)
C. Kuehn
 SIAM Activity Group, DSWeb Magazine, April 2017
- T4 *"Multiscale Dynamical Systems: Analysis and Numerics"*
C. Kuehn
 Habilitation Thesis, Vienna University of Technology, 2016
- 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"*
C. Kuehn
 Ph.D. Thesis, Cornell University, 2010
- T2 *"Introduction to Potential Theory via Applications"*
C. Kuehn
 Part III essay, University of Cambridge, 2006
- T1 *"Stability Analysis of Nonlinear Subdivision Schemes"*
C. Kuehn
 B.Sc. Thesis, Jacobs University Bremen, 2005

LECTURE NOTES:

- L3 *"Introduction to Adaptive Network Dynamics"*
C. Kuehn
 lecture notes, 45 pp., Case Studies in Mathematical Modelling
- 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

PREPRINTS:

- Jxy *"Controlling canard cycles"*
 H. Jardon Kojakhmetov and **C. Kuehn**
 submitted, preprint on arXiv
- Jxy *"A random dynamical systems perspective on isochronicity for stochastic oscillations"*
 M. Engel and **C. Kuehn**
 submitted, preprint on arXiv
- Jxy *"Predicting sparse circle maps from their dynamics"*
 F. Kraemer, **C. Kuehn** and N. Sissouno
 work-in-progress, first preprint results on arXiv
- Jxy *"Numerical continuation for a fast-reaction system and its cross-diffusion limit"*
C. Kuehn and C. Soresina
 submitted, preprint on arXiv
- Jxy *"On the influence of cross-diffusion in pattern formation"*
 M. Breden, **C. Kuehn** and C. Soresina
 submitted, preprint on arXiv
- Jxy *"Global martingale solutions for quasilinear SPDEs via the boundedness-by-entropy method"*
 G. Dhariwal, F. Huber, A. Jüngel, **C. Kuehn** and A. Neamtu
 submitted, preprint on arXiv
- Jxy *"An adaptive voter model on simplicial complexes"*
 L. Horstmeyer and **C. Kuehn**
 submitted, preprint on arXiv
- Jxy *"Discretized fast-slow systems with canard points in two dimensions"*
 M. Engel, **C. Kuehn**, M. Petrera and Y. Suris
 preprint on arXiv
- Jxy *"Random attractors for stochastic partly dissipative systems"*
C. Kuehn, A. Neamtu and A. Pein
 submitted, preprint on arXiv

- Jxy *"Rough center manifolds"*
C. Kuehn and A. Neamtu
submitted, preprint on arXiv
- Jxy *"On fast-slow consensus networks with a dynamic weight"*
H. Jardon Kojakhmetov and **C. Kuehn**
submitted, preprint on arXiv
- Jxy *"Computing invariant sets of random differential equations using polynomial chaos"*
M. Breden and **C. Kuehn**
submitted, preprint on arXiv
- Jxy *"Pathwise mild solutions for quasilinear stochastic partial differential equations"*
C. Kuehn and A. Neamtu
submitted, preprint on arXiv
- Jxy *"Combined error estimates for local fluctuations of SPDEs"*
C. Kuehn and P. Kürschner
submitted, preprint on arXiv