Curriculum Vitae

Name	**Univ.-Prof. Dipl. Ing. Dr. techn. Klemens Fellner**
Date/place of birth	11.Aug.1973, Bad Ischl, Austria
Citizenship/status	Austrian, married, one child (born 2017)
Address	Institute for Mathematics and Scientific Computing, University of Graz, Heinrichstr. 36, 8010 Graz, Austria
Telephone	+43 (0)316 380–5180
Email	klemens.fellner@uni-graz.at
ORCID iD	https://orcid.org/0000-0001-9906-8977
Homepage	http://imsc.uni-graz.at/fellnerk/

Education

Habilitation Mathematics– Faculty of Mathematics – 03/2010, University of Vienna

Dr. techn. – Applied Mathematics with highest distinction – 11/2002, TU Vienna
Thesis *On two models for charged particle systems: The cometary flow equation and the Burgers-Poisson system* Wissenschaftskolleg W008, FWF, advisor Christian Schmeiser, co-advisor Peter Markowich

Dipl. Ing. – Technical Mathematics with highest distinction – 03/1998, TU Vienna
Thesis *Transmission-line simulation of my bassoon*

Prediploma – Technical Physics with highest distinction – 10/1997, TU Vienna

Bassoon masterclass Prof. Werba (VPO) 1992 - 1998, Vienna Conservatory

Research Interests

Applied mathematics and analysis, mathematical modelling, numerical simulation

Partial differential equations, reaction-diffusion systems, kinetic equations, non-local equations

Global existence, Regularity, Large-time behaviour, Entropy and Duality-methods

Lipolysis, Protein localisation, Prion dynamics, Collective behaviour, Organic photovoltaics, Swimming micro-organism

Mathematics & Arts

Current and Former Positions

Professor of Mathematics and Computational Sciences, Group Leader Applied Analysis, since 06/2011, University of Graz

Senior Research Associate 10/2007 - 05/2011, DAMTP, University of Cambridge

Universitätsassistent, 07/2005 - 05/2011, Faculty of Mathematics, University of Vienna

How do cells move? Mathematical modelling of cytoskeletal dynamics and cell migration WWTF, 07/2005–01/2007, Wolfgang Pauli Institut

Wittgenstein Award 2000 Peter A. Markowich, 07/2004 - 06/2005, Uni. Vienna

Nonlinear Waves in Kinetic and Macroscopic Models FWF, 07/2003 - 06/2004, TU-Vienna

Differential Equation Models in Science and Engineering Wissenschaftskolleg FWF, 01/2002 - 12/2002, TU-Vienna

Fokker-Planck and Mean-Field Equations FWF, 03/2001 - 12/2001, Uni. Vienna

Universitätsassistent (replacement), 03/1999 - 09/1999, Kepler University Linz

Expansion Methods for the Semiconductor Boltzmann Equation, 04/1998 - 02/1999, TU-Vienna

Longterm Invitations & Postdoc/Predoc Stays

Sabbatical at the *School of Mathematics and Statistics*, 10/2018-02/2019, University of Melbourne, Australia

Paternity leave 07-08/2018

Professeur invité *Insitut Elie Cartan* – 05/2011, 05/2012, Université Nancy 2, France

invited researcher within the thematic program "Partial Differential Equations in Kinetic Theories" *Isaac Newton Institute* – 09-12/2010, Cambridge, UK

research visit "Determinisitc and Stochastic Non-local Aggreation Pattern" *University of Melbourne* – 04/2011, 04/2010, Melbourne, Australia

invited researcher within the thematic program "Mathematical Biology: Modelling and Differential Equations" *CRM, Barcelona* – 04/2009, Catalonia, Spain

invited Maître de Conférence *Ecole Normale Supérieure de Cachan* – 03/2008, 07/2006, ENS Cachan, France

Post-Doc *Baker Heart Research Institute, University of Melbourne*, Wittgenstein Award Markowich – 07-08/2004, Melbourne, Australia

Post-Doc *Ecole Normale Supérieure de Cachan*, EU Network HYKE – 05/2005, 04-05/2004, 04-06/2003, ENS Cachan, France

Post-Doc *Universidad de Granada, Universitat Autònoma de Barcelona*, EU Network HYKE – 01-03/2003, Granada, Barcelona, Spain

Pre-Doc *Centre de Mathematique et Informatique* – 07-08/2001, Université Aix-Marseille 1, Marseille, France

Pre-Doc *Laboratoire Dieudonné*, EU Network TMR – 10/2000 - 02/2001, Université de Nice, France

Academic Organisation/Administration

Vice Dean for Research, Faculty of Natural Sciences, University of Graz, since 10/2019

(Chairing) Hiring committees for professorships (three times out of five), University of Graz, since 2012

(Chairing) Habilitation committees (twice out of four), University of Graz, Technical University of Graz, since 2015

Member curricula committee, since 2016

Member mathematical section of teaching trainee curricula, since 2013

Erasmus+ coordinator, since 2017

Member faculty board 2013 – 2017

Projects & Third Party Funds

SFB 73 PI of the interdisciplinary project part PP02 together with Rudolf Zechner, Institute of Molecular Biosciences, University of Graz, SFB *Lipid Hydrolysis: Cellular lipid degradation pathways in health and disease*, Medical University of Graz, University of Graz, Medical University of Vienna, FWF, since 2019

IGDK 1754 PI, International Research Training Group IGDK *Optimization and Numerical Analysis for Partial Differential Equations with Nonsmooth Structures*, University of Graz, Technical University of Munich, Technical University of Graz, Bundeswehr University Munich, FWF-DFG, since 2012

Math&Arts PI, Unconventional Research: *Mathematics and art: Towards a balance of artistic intuition and mathematics*, University of Graz, since 2014

Graz 2020 PI *Listen to intuition*, Graz Kulturjahr 2020, City of Graz

ASEA-UNINET PI of cooperation projects/workshops with Hanoi University of Science and Technology, Vietnam Institute for Advanced Studies in Mathematics (VIASM), ASEA-UNINET, since 2014

Thematic Program *PDE-Models in Biology*, Wolfgang Pauli Institute, University of Vienna, 2013

Acciones Integradas Project Coordinator, 2007-2008, ÖAD, Austria-Spain

Amadée Project Coordinator 2007-2008, ÖAD, Austria-France

Organiser

Workshop *Classical and Quantum Mechanical Models of Many-Particle Systems*, 12/2020, Oberwolfach

Workshop *Mathematics in Industry*, IGDK 1754 10/2019, University of Graz

Workshop co-organiser *Applied PDEs and kinetic equations: from physics to life sciences and beyond*, WPI, Uni. Vienna, SFB, DK, INRIA, University of Vienna, 04/2018

Workshop co-organiser *Workshop on Dynamical Systems and Nonlinear Evolutions* Core Research Area Models and Simulation, University of Graz, 03/2017

Workshop co-organiser *Emerging mathematical Models in Biology and Life Sciences*, Core Research Area Models and Simulation, FSB Mobis, University of Graz, 05/2015

Workshop *Mathematical Modelling in Biology and Physiology*, WPI Vienna and DK Vienna, 09/2014

Summer School *Analysis and Applications of Partial Differential Equations*, IGDK Graz-Munich and DK Vienna, 09/2014

Workshop co-organiser *Mathematical Modelling in Biology*, Core Research Area Models and Simulation, 01/2014, University of Graz

Workshop *First Graz-Wien Bio-PDE Day*, 05/2012, 05/2013, University of Graz, University of Vienna

Workshop *Mathematical Modelling of Organic Photovoltaic Devices*, Robinson College 06/2011, University of Cambridge, UK

Workshop *Evolutionary Dynamics of Structured Populations* part of the PDE's in Kinetic Theory programme of the Newton Institute, 11/2010, Cambridge, UK

Workshop *Applied Differential Equations in Physics, Biology and Life Sciences*, 03/2010, University of Cambridge, UK

Reviewer for Communications in Mathematical Physics, Annales de l'Institut Henri Poincaré (C) Analyse Non Linéaire, Kinetic and Related Models, Computer and Fluids, SIAM Journal on Mathematical Analysis, SIAM Journal on Applied Mathematics, SIAM Journal on Multiscale Modeling and Simulation, Journal of Differential Equations, Mathematical Models and Methods in Applied Sciences, BMC Biophysics, Discrete and Continuous Dynamical Systems - Series B, Journal of Physics A, Nonlinearity, Physica A, Physica D, Acta Applicanda Mathematicae, Journal de Mathématiques Pures et Appliquées, Bulletin des Sciences Mathématique, Journal of Pure and Applied Functional Analysis, Asymptotic Analysis, Bulletin of the London Mathematical Society, Journal of Mathematical Analysis and Applications, International Journal of Heat and Mass Transfer, Zeitschrift für angewandte Mathematik und Physik, Mathematical and Computer Modelling, Mathematical Methods in the Applied Sciences, Nonlinear Analysis Series A: Theory, Methods & Applications, Communications in Computational Physics, Communications in Pure and Applied Analysis, Mathematical Modelling and Analysis, Journal of Computational and Applied Mathematics, European Journal of Applied Mathematics, Analysis & PDE, Nonlinear Differential Equations and Applications, Journal of Functional Analysis, Bulletin of Mathematical Biology

Civil (alternative military) service, Austrian Multiple Sclerosis Society
Caring and helping of Multiple Sclerosis patients – 10/1999 - 09/2000, Vienna

Teaching

Lectures on *ODEs, PDEs, PDEs & Dynamical Systems, Reaction-Diffusion Equations, Pattern, Cluster and Collective Aggregation, Mathematical Modelling for teaching trainees,...* since 2011, University of Graz

Exercise classes in *Analysis 1/2, Analysis LAK, PDEs, Applied Mathematics,...* since WS 2011/12, University of Graz

Seminars in *Applied Mathematics, Mathematics for Teachers in Training* since WS 2011/12, University of Graz

Lecture *Reaction-Diffusion Equations* (MT 2009, 2010), University of Cambridge

Lecture *Selected Topics PDE: Reaction-Diffusion Equations* (SS 2007), Uni. Vienna

Introductory Seminars *Analysis 1/2 for Physics* (WS 2006, SS 2007), *ODE 1* (SS 2006), *ODE 2* (WS 2005/2006), *Applied Analysis* (SS 2005) – Uni. Vienna *Applied Mathematics* (SS 1999) – Johannes Kepler University Linz

Tutor *Numeric for Computer-engineers* (WS 2001) – TU-Vienna *Mathematical Methods in Theoretical Physics*, (WS 1996/97/98) - TU-Vienna

Supervision

PhD supervisor of Reymart Lagunero, since 2019, University of Graz

PhD co-supervisor of Benedikt Graswald, since 2018, TU Munich

PhD co-supervisor of Christian Münch, 2015–2017, TU Munich

PhD supervisor of Michael Kniely, 2015–2017, University of Graz

partial PhD supervisor of Stefan Rosenberger, 2013–2014, University of Graz, CERN

PhD supervisor of Tang Quoc Bao, 2012–2015, University of Graz

PhD co-supervisor of Andreas Rainer, 2011–2014, Institute of Economics, University of Graz

PhD supervisor of Daniel Brinkman, 2010–2013, DAMTP, University of Cambridge

partial PhD supervision of Alexander Lorz, DAMTP, University of Cambridge

partial PhD supervision of Vera Miljanovic, TU Vienna, University of Vienna

(co)-supervision of $\sim$ 10 master/teaching trainee/bachelor theses, University of Graz

Refereed papers & proceedings / preprints / theses

R K. Fellner, B. Hughes, *Solutions of a non-local aggregation equation: universal bounds, concavity changes and efficient numerical solutions*, preprint.

R K. Fellner, C. Muench, *On hysteresis-reaction-diffusion systems: singular fast-reaction limit derivation and nonlinear hysteresis feedback*, preprint.

R K. Fellner, M. Kniely, *Uniform convergence to equilibrium for a family of drift-diffusion models with trap-assisted recombination and the limiting Shockley-Read-Hall model*, preprint.

R K. Fellner, E. Latos, B.Q. Tang, *Global regularity and convergence to equilibrium of reaction-diffusion systems with nonlinear diffusion*, to appear in JEE.

R K. Fellner, J. Morgan, B.Q. Tang, *Global classical solutions to quadratic systems with mass control in arbitrary dimensions*, to appear in Annales Institute H. Poincaré (C) Anal. Non Linéaire.

R K. Fellner, J. Morgan, B.Q. Tang, *Uniform-in-time bounds for quadratic reaction-diffusion systems with mass dissipation in higher dimensions*, to appear in Discrete and Continuous Dynamical Systems - Series S.

R M. Brokate, K. Fellner, M. Lang-Batsching, *Weak differentiability of the control-to-state mapping in a parabolic problem with hysteresis*, to appear in NoDEA.

R K. Fellner, E. Latos, T. Suzuki, *Large-time asymptotics of a public goods game model with diffusion*, open access Monatshefte für Mathematik, **190** no.1 (2019) 101–121.

R M. Doumic, K. Fellner, M. Mezache, H. Rezaei, *A bi-monomeric nonlinear Becker-Döring-type system to capture oscillatory aggregation kinetics in prion dynamics*, Journal of Theoretical Biology, **480** (2019) 241–261.

R K. Fellner, S. Sonner, B.Q. Tang, D.D. Thuan, *Stabilisation by noise on the boundary for a Chafee-Infante equation with dynamical boundary conditions*, Discrete and Continuous Dynamical Systems - Series B, **24** no.8 (2019) 4055–4078.

R K. Baur, K. Fellner, M.J. Parsons, M. Tschabold, *Growth behaviour of periodic tame friezes*, Revista Matemática Iberoamericana, **35** no. 2 (2019) 575–606.

R H. Egger, K. Fellner, J.-F. Pietschmann, B.Q. Tang, *Analysis and Numerical Solution of Coupled Volume-Surface Reaction-Diffusion Systems with Application to Cell Biology*, Applied Mathematics and Computation, **336** (2018) 351–367.

R K. Fellner, B.Q. Tang, *Convergence to equilibrium of renormalised solutions to nonlinear chemical reaction-diffusion systems*, open access in ZAMP, **69** (2018) first online article 54.

K K. Fellner, E. Latos, B.Q. Tang, *Well-posedness and exponential equilibration of a volume-surface reaction-diffusion system with nonlinear boundary coupling*, Annales Institute H. Poincaré (C) Anal. Non Linéaire, **35** no.3 (2018) 643–673.

K K. Fellner, M. Kniely, *On the entropy method and exponential convergence to equilibrium for a recombination-drift-diffusion system with self-consistent potential*, Applied Mathematics Letters, **79** (2018) 196–204.

R L. Desvillettes, K. Fellner, B.Q. Tang, *Trend to equilibrium for reaction-diffusion systems arising from complex balanced chemical reaction networks*, SIAM Journal on Math. Analysis, **49** no.4 (2017) 2666–2709.

P K. Fellner, B.Q. Tang, *Entropy methods and convergence to equilibrium for volume-surface reaction-diffusion systems*, to appear in the Proceedings of the 4th meeting Particle Systems and PDEs, Braga, Protugal, December 2015, Springer Proceedings in Mathematics and Statistics, (2017) 153–176.

R M. Breden, L. Desvillettes, K. Fellner, *Smoothness of moments of the solutions of discrete coagulation equations with diffusion*, open access, Monatshefte fuer Mathematik **183** no.3 (2017) 437–463.

R K. Fellner, B.Q. Tang, *Explicit exponential convergence to equilibrium for nonlinear reaction-diffusion systems with detailed balance condition*, Nonlinear Analysis **159** (2017) 145–180.

R K. Fellner, W. Prager, B.Q. Tang, *The entropy method for reaction-diffusion systems without detailed balance: first order chemical reaction networks*, Kinetic and Related Models **10** no.4 (2017) 1055–1087.

R K. Fellner, E. Latos, T. Suzuki, *Global classical solutions for mass-conserving, (super)-quadratic reaction-diffusion systems in three and higher space dimensions*, Discrete and Continuous Dynamical Systems - Series B, **21** no.10, (2016) 3441–3462.

R K. Fellner, V. Kovtunenko, *A discontinuous Poisson–Boltzmann equation with interfacial transfer: homogenisation and residual error estimate*, published open access, Applicable Analysis **95** no. 12 (2016) 2661–2682.

R K. Fellner, S. Rosenberger, B.Q. Tang, *A reaction-diffusion system modelling asymmetric stem-cell division: existence, uniqueness, numerical simulation and rigorous quasi-steady-state approximation*, Comm. Math. Sci. **14** no. 6 (2016) 1553–1580.

R K. Fellner, E.-H. Laamri, *Exponential decay towards equilibrium and global classical solutions for nonlinear reaction-diffusion systems*, Journal of Evolution Equations **16** no. 3 (2016) 681–704.

R K. Baur, K. Fellner, *Mathematics and Arts: Towards a balance between artistic intuition and mathematical complexity*, International Mathematical News of the Austrian Mathematical Society, **231** (2016) 1–14.

R K. Fellner, V. Kovtunenko, *A singularly perturbed nonlinear Poisson–Boltzmann equation: uniform and super-asymptotic expansions*, Mathematical Methods in the Applied Sciences, **38** no. 16 (2015) 3575–3586.

R L. Desvillettes, K. Fellner, *Duality- and Entropy Methods for Reversible Reaction-Diffusion Equations with Degenerate Diffusion*, Mathematical Methods in the Applied Sciences, **38** no. 16 (2015) pp. 3432–3443.

R K. Fellner, E. Latos, G. Pisante, *On finite time blow-up for filtration problem with nonlinear reaction*, Applied Mathematical Letters **42** (2015) pp. 47–52.

P L. Desvillettes, K. Fellner, *Exponential Convergence to Equilibrium for a Nonlinear Reaction-Diffusion Systems Arising in Reversible Chemistry*, System Modelling and Optimization, IFIP AICT, 443 (2014) 96–104.

R J.A. Canizo, L. Desvillettes, K. Fellner, *Improved duality estimates and applications to reaction-diffusion equations*, Communications in Partial Differential Equations, **39**, no. 6 (2014) pp. 1185–1204.

S L. Desvillettes, K. Fellner, *Duality- and Entropy Methods in Coagulation-Fragmentation Models*, Revista di Matematica della Universita di Parma **4** no.2 (2013) pp. 215–263

R B. Hughes, K. Fellner, *Continuum models of cohesive stochastic swarms: the effect of motility on aggregation patterns*, Physica D **260** (2013) pp. 26–48.

R D. Brinkman, K. Fellner, P. Markowich, M.-T. Wolfram, *A drift-diffusion-reaction model for excitonic photovoltaic bilayers: asymptotic analysis and a 2-D HDG finite-element scheme*, Math. Models and Methods in Applied Sciences **23** (2013) pp. 839–872.

R E. Hackett-Jones, K. Landman, K. Fellner, *Aggregation patterns from non-local interactions: discrete stochastic and continuum modelling*, Phys. Rev. E **85**, no. 4 (2012) 041912.

R A. Chertock, K. Fellner, A. Kurganov, A. Lorz, P. Markowich, *Sinking, merging and stationary plumes in a coupled chemotaxis-fluid model: a high-resolution numerical approach*, Journal of Fluid Mechanics, **694** (2012) pp. 155–190.

P L. Desvillettes, K. Fellner, *Entropy Methods for Reaction-Diffusion Equations with Degenerate Diffusion Arising in Reversible Chemistry*, accepted in the likely to be never printed Proceedings of the Equadiff 2007.

R K. Fellner, G. Raoul, *Stability of stationary states of non-local equations with singular interaction potential*, Mathematical and Computer Modelling **53** (2011), pp. 1436–1450.

R K. Fellner, G. Raoul, *Stable stationary states of non-local interaction equations*, Mathematical Models and Methods in Applied Sciences **20** no.12 (2010) pp. 2267–2291.

R R. Duan, K. Fellner, C. Zhu, *Energy Method for Multi-dimensional Balance Laws with Non-local Dissipation*, J. Math. Pures Appl. **93** no.6 (2010) pp. 572–598.

R J. A. Cañizo, L. Desvillettes, K. Fellner, *Regularity and mass conservation for discrete coagulation-fragmentation equations with diffusion*, Ann. Inst. H. Poincaré (C) Anal. Non Linéaire, **27** no.2 (2010) pp. 639–654.

P J. A. Cañizo, L. Desvillettes, K. Fellner, *Absence of Gelation for Models of Coagulation-Fragmentation with Degenerate Diffusion*, Il Nuovo Cimento, Proceedings of the ICTT **33**, no.1 (2010) pp. 79–86.

R J. Carrillo, L. Desvillettes, K. Fellner, *Rigorous Derivation of a Nonlinear Diffusion Equation as Fast-Reaction Limit of a continuous Coagulation–Fragmentation Model with Diffusion*, Comm. Partial Differential Equations **34** no.10-12 (2009) pp. 1338–1351.

R L. Desvillettes, K. Fellner, *Large time asymptotics for a Continuous Coagulation-Fragmentation Model with Degenerate Size-dependent Diffusion*, SIAM J. Math. Anal. **41** no.6 (2009) pp. 2315–2334.

R M. Di Francesco, K. Fellner, P. Markowich, *The entropy dissipation method for inhomogeneous reaction–diffusion systems*, Proc. R. Soc. A **464** (2008) pp. 3273–3300.

R L. Desvillettes, K. Fellner, *Entropy Methods for Reaction-Diffusion Equations: Slowly Growing A-priori Bounds*, Revista Matemática Iberoamericana **24**, no. 2 (2008) pp. 407–431.

R M. Di Francesco, K. Fellner, H. Liu, *A non-local conservation law with nonlinear "radiation" inhomogeneity*, Journal of Hyperbolic Differential Equations **5** no.1 (2008) pp. 1–23.

R J. Carrillo, L. Desvillettes, K. Fellner, *Fast-Reaction Limit for the Inhomogeneous Aizenman-Bak Model.* Kinetic and Related Models **1** no. 1 (2008) pp. 127–137.

R J. A. Carrillo, L. Desvillettes, K. Fellner, *Exponential Decay Towards Equilibrium for the Inhomogeneous Aizenman-Bak Model*, Communications in Mathematical Physics **278**, no. 2 (2008), pp. 433–451.

P L. Desvillettes, K. Fellner, *Entropy Methods for Reaction-Diffusion Equations: Degenerate Diffusion*, Discrete and Continuous Dynamical Systems, Supplements Special (2007) pp. 304-312.

R K. Fellner, C. Schmeiser, *Classification of equilibrium solutions of the cometary flow equation and explicit solutions of the Euler equations for monatomic ideal gases*, J. Stat. Phys. **129** no. 3 (2007), pp. 493-507.

R L. Desvillettes, K. Fellner, M. Pierre, J. Vovelle *About Global Existence for Quadratic Systems of Reaction-Diffusion*, J. Advanced Nonlinear Studies **7** no 3. (2007) pp. 491–511.

P K. Fellner, V. Miljanovic, C. Schmeiser *Entropy Method for the Linearized Cometary Flow Equation*, Proceedings of the Tenth International Conference on Hyperbolic Problems, Editors F. Asakura, S. Kawashima, A Matsumura, S. Nishibata, K. Nishihara Yokohama Publishers (2006).

R K. Fellner, V. Miljanovic, C. Schmeiser, *Convergence to equilibrium for the linearised cometary flow equation*, Trans. Theory Stat. Phys. **35**, no. 3-4 (2006), pp.109-136.

R L. Desvillettes, K. Fellner *Exponential Decay towards Equilibrium via Entropy Methods for Reaction-Diffusion Equations*, J. Math. Anal. Appl. **319**, (2006), pp. 157–176.

R J. A. Carrillo, K. Fellner *Long-time Asymptotics via Entropy Methods for Diffusion Dominated Equations*, Asympt. Ana. Vol. **42**, no. 1-2 (2005), pp. 29–54.

R K. Fellner, F. Poupaud, C. Schmeiser, *Existence and convergence to equilibrium of a kinetic model for cometary flows*, J. Stat. Phys. Vol. **114**, no. 5-6 (2004), pp. 1481–1499.

R K. Fellner, L. Neumann, C. Schmeiser, *Convergence to global equilibrium for spatially inhomogeneous kinetic models of non-micro-reversible processes*, Monatsh. d. Math. Vol. **141**, no. 4 (2004), pp. 289–299.

R K. Fellner, C. Schmeiser, *Burgers–Poisson: A nonlinear dispersive model problem*, SIAM J. Appl. Math. **64**, no. 5 (2004), 1509–1525 (electronic).

PhD thesis K. Fellner, *On two models for charged particle systems: The cometary flow equation and the Burgers-Poisson system*

Master thesis K. Fellner, *Transmission-Line Simulation of my Bassoon*

Talks / seminars since 2003

Samos 09/2019 *A Becker-Döring type model for oscillatory aggregation kinetics in prion dynamics*, University of Aegean, Greece

Hanoi 09/2019 *A Becker-Döring type model for oscillatory aggregation kinetics in prion dynamics*, Vietnam Institute of Advanced Study in Mathematics, Vietnam

Gaeta 05/2019 *On hysteresis reaction-diffusion systems*, *International Conference on Elliptic and Parabolic Problems*, Gaeta, Italy

Nancy 03/2019 *Convergence to equilibrium for reaction-diffusion systems*, University of Lorraine, France

Munich 03/2019 *On hysteresis reaction-diffusion systems*, Technical University of Munich, Germany

Melbourne 12/2018 *A Becker-Döring type model for oscillatory aggregation kinetics in prion dynamics*, The University of Melbourne, Australia

Marrakech 04/2018 invited talk *On Volume-Surface Reaction-Diffusion Systems*, Universite de Lorraine, Marocco

Banff 04/2018 *Equilibration of renormalised solutions to nonlinear reaction-diffusion systems*, BIRS, Canada

Bad Ischl 06/2017 *Warum hören wir was wir hören*, Rotary Bad Ischl, Austria

Vienna 06/2017 invited talk *Equilibration and QSSA of Volume-Surface Reaction-Diffusion Models*, Wolfgang Pauli Institut, Vienna

Osaka 04/2017 invited seminar *On the Large-Time-Behaviour of Nonlinear Reaction-Diffusion-type Systems*, University of Osaka, Japan

Vienna 03/2017 invited talk *Regularity and Equilibration of Spatially Inhomogeneous Coagulation-Fragmentation Models*, Wolfgang Pauli Institut, Vienna

Graz 03/2017 invited colloquium *Coagulation-Fragmentation Models*, Graz

Graz 03/2017 lesson on *Hearing Mathematics*, Graz

Oberwolfach 01/2017 invited talk *Continuum and Discrete Models of Collective Aggregation Pattern*, MFO Oberwolfach, Germany

Vienna 12/2016 invited talk *Regularity Results of Discrete Coagulation-Fragmentation Models*, Vienna University of Technology, Vienna

Graz 12/2016 invited talk *Stop Talking, Start Play: Swarm Intelligence Gap*, esc medien kunst labor, Graz

Thirumalaikodi 10/2016 lesson on *Mathematics and Music*, Sri Narayani Vidhyashram School, Tamil Nadu, India

Beijing 07/2016 invited talk *How duality gives long live to solutions and why entropy agrees with it*, Beijing Computational Science Research Center, China

Hanoi 06/2016 invited seminar *Introduction to Entropy- and Duality Method for Reaction-Diffusion-type Systems*, Vietnam Institute of Advanced Mathematical Studies, Vietnam

Hanoi 06/2016 invited talk *On Global Existence and Convergence to Equilibrium of Nonlinear Reaction-Diffusion Systems*, Vietnam Institute of Advanced Mathematical Studies, Vietnam

Lille 06/2016 invited plenary talk *Global Existence and Large-Time-Behaviour of Reaction-Diffusion Models*, University of Lille, France

Vienna 06/2016 invited talk *On Global Existence and Equilibration of Nonlinear Reaction-Diffusion Models*, Erwin Schrödinger Institut, Vienna

Dalian 05/2016 invited talk *Continuum and Discrete Models of Collective Aggregation Pattern*, Dalian Technical University, China

Dalian 05/2016 invited talk *On volume-surface and complex-balanced reaction-diffusion systems*, Dalian Technical University, China

Beni-Mellal 04/2016 invited talk *On Multi-Compartment and Nonlinear Reaction-Diffusion Systems*, Universite Sultan Moulay Slimane, Beni-Mellal, Marocco

Paris 03/2016 invited talk *On volume-surface reaction-diffusion systems: Analysis, Numerics and QSSA*. University Paris 7, France

Braga 12/2015 invited talk *Continuum and Discrete Models of Cohesive Aggregation Pattern*. University of Braga, Portugal

Caserta 09/2015 invited seminar *Entropy- and Duality Methods for nonlinear Reaction-Diffusion Systems*. University of Neaples II, Caserta, Italy

Anacapri 09/2015 invited talks *The Collaborative Mind* and *On Reaction-Diffusion Systems with Volume-Surface Coupling and beyond Detailed Balance Equilibria*, University of Neaples, Anacapri, Italy

Lyon 07/2015 invited talk *On Volume-Surface Reaction-Diffusion Systems and Applications in Cell-Biology*, Equadiff 2015, University of Lyon, France

Techendorf 06/2015 invited compact course *Entropy- and Duality Methods for Reaction-Diffusion-type Systems I: Detailed Balance Systems and II: Complex Balance Systems*. Techendorf, University of Vienna, Austria

L'Aquila 06/2015 invited talk *The Entropy-Method for Reaction-Diffusion Systems and Applications in Biology*, Gran Sasso Science Institute, L'Aquila, Italy

Darmstadt 05/2015 invited compact course *An Introduction to Entropy-Methods for Reaction-Diffusion-type Models*. Technical University Darmstadt, Germany

Paris 04/2015 invited talk *Volume-Surface Reaction-Diffusion Systems with Applications in Biology*, Ecole Normale Supérieure de Cachan, France

Munich 02/2015 invited seminar *Volume-Surface Reaction Diffusion Systems Modelling Asymmetric Protein Localisation.* Technical University Munich, Germany

Rust 01/2015 invited talk *Entropy- and Duality methods for Nonlinear Dissipative PDE Models.* DK Vienna, Rust, Austria

Kyoto 01/2015 invited seminar talk *On Coagulation-Fragmentation Models with Spatial Diffusion*, University of Kyoto, Japan

Osaka 01/2015 invited talk *Entropy Structures of RD systems and the Algebra of Linear Reaction Networks*, University of Osaka, Japan

Berlin 12/2014 invited talk *On a Poisson-Boltzmann model for batteries: asymptotic expansion and homogenisation*, Technical University Berlin, Germany

Mannheim 11/2014 invited talk *On Systems of Reaction-Diffusion Equations: Global Existence and Large-Time-Analysis*, University of Mannheim, Germany

Novi Sad 09/2014 invited talk *Convergence to Equilibrium for a Coagulation-Fragmentation Model with Degenerate Spatial Diffusion* University of Novi Sad, Serbia

Vienna 09/2014 invited talk *On Reaction-Diffusion Systems: Global Existence, Convergence to Equilibrium and Quasi-Steady-State-Approximation*, Wolfgang Pauli Institute Vienna, Austria

Granada 09/2014 invited talk *Asymmetric Protein Localisation and Networks of Reaction-Diffusion Equations*, University of Granada, Spain

Hanoi 08/2014 invited talk *Entropy- and Duality Methods for Dissipative PDE Models*, HUST, Hanoi, Vietnam

Madrid 07/2014 invited talk *Continuum Models of Cohesive Stochastic Swarms*, AIMS Conference 2014, Madrid, Spain

Madrid 07/2014 invited talk *On Coagulation-Fragmentation Models with Spatial Diffusion*, AIMS Conference 2014, Madrid, Spain

Banff 07/2014 invited talk *Towards Global Existence and Optimal Equilibriation Rates for Reaction-Diffusion Models*, BIRS, Banff, Canada

ENS Cachan 05/2014 invited talk *Volume-Surface Reaction-Diffusion Systems Describing Asymmetric Protein Localisation*, Ecole Normale Supérieure de Cachan, France

Waterloo 04/2014 seminar talk *Entropy- and Duality Methods for Reaction-Diffusion Systems*, University of Waterloo, Canada

Munich 03/2014 seminar talk *Excitonic Organic Photovoltaic Devices*, Technical University of Munich, Germany

Graz 01/2014 talk *On Mixed Volume-Surface Reaction-Diffusion Systems*, workshop on Mathematical Modelling in Biology, University of Graz

Oxford 12/2013 invited talk *Drift-Diffusion Modelling of a Organic Photovoltaic Bilayer*, University of Oxford, UK

Oberwolfach 12/2013 invited talk *Entropy- and Duality Methods for Systems of Reaction-Diffusion Equations*, Oberwolfach, Germany

Innsbruck 09/2013 invited talk *Oscillatory Solutions of Non-local Models of Cell Aggregation*, ÖMG-DMV Meeting, University of Innsbruck

Innsbruck 09/2013 invited talk *Mixed Volume-Surface Reaction-Diffusion Systems Describing Asymmetric Protein Localisation*, ÖMG-DMV Meeting, University of Innsbruck

Osaka 09/2013 invited talk *Entropy- and improved duality methods for reaction-diffusion systems*, University of Osaka, Japan

Graz 07/2013 invited talk *Entropy methods and the large-time-behaviour of dissipative dynamical systems*, Summer School of the Schumpeter Centre, Mariatrost, Austria

Havanna 06/2013 invited talk *Aggregation patterns in non-local equations with repulsive-aggregating potential*, CIMPA Summer School, Havanna, Cuba

Snowbird 05/2013 invited talk *The Mathematical Modelling and Numerical Simulation of Excitonic Organic Photovoltaic Devices*, SIAM DS 2013, Snowbird, Utah, USA

Munich 11/2012 lecture series *Reaction-Diffusion Systems and Coagulation-Fragmentation Models*, TU Munich, Germany

Berlin 09/2012 invited talk *Drift-Diffusion-Recombination Models for Excitonic Organic Photovoltaic Devices*, WIAS Berlin, Germany

Nancy 09/2012 invited talk *The Role of Entropy and Duality Methods in the Theory of Reaction-Diffusion and Coagulation-Fragmentation Models*, Institute Elie Cartan, Nancy, France

Graz 06/2012 inaugural lecture *PDEs with Entropies*, University of Graz, Austria

Porto Ercole 06/2012 summer school course seminar *Coagulation-Fragmentation Models I-V*, Politecnico di Torino, Italy

Barcelona 04/2012 invited seminar *Organic Photovoltaic Devices, Drift-Diffusion Systems and Entropy Methods*, University Autonoma Barcelona, Spain

Oxford 04/2012 invited talk *Asymptotics for a Drift-Diffusion-Recombination Model of an Excitonic Organic Photovoltaic Bilayer*, University of Oxford, UK

Melbourne 02/2012 invited seminar *Drift-Diffusion-Recombination Processes in Excitonic Organic Photovoltaic Devices*, University of Melbourne, Australia

Banff 01/2012 invited talk *Aggregation Pattern in Non-local Equations: Discrete Stochasic and Continuum Modelling*, BIRS, Banff, Canada

Singapure 01/2012 invited talk *Drift-Diffusion-Recombination Processes in Excitonic Organic Photovoltaic Devices*, IMS, National University of Singapure, Singapure

Vienna 11/2011 invited talk *Aggregation patterns in non-local interactions: discrete stochastic and continuum modelling*, WPI, University of Vienna, Austria

Berlin 09/2011 invited Langenbach seminar *Organic Photovoltaic Devices: Drift Diffusion Systems and Entropy Methods*, WIAS Berlin, Germany

Nancy 09/2011 invited seminar *Duality and Entropy Methods for Systems of Reaction-Diffusion Equations*, University of Nancy, France

Munich 09/2011 IGDK school hearing *Organic Photovoltaics and Mixed Surface/Volumn Reaction-Diffusion Modelling Asymmetric Stem-Cell Division*, Technichal Univeristy of Munich, Germany

Loughborough 08/2011 invited talk *On spatial inhomogeneous coagulation-fragmentation models with diffusion*, EquaDiff 2011, University of Loughborough, UK

Hong Kong 05/2011 invited talk *Entropy- and Duality Methods for Coagulation-Fragmentation Models with Diffusion*, Conference Recent Developments in Nonlinear PDEs, Chinese University of Hong Kong, China

Oxford 04/2011 invited talk *Discrete and Continuous Coagulation-Fragmentation Models with Diffusion*, Oxbridge PDE days, University of Oxford, UK

Melbourne 04/2011 invited seminar talk *Coagulation-fragmentation Models*, University of Melboure, Australia

Sydney 04/2011 invited colloquium talk *The dynamics of non-local interaction equations with repulsive-aggregating potentials*, University of Sydney, Australia

KAUST 03/2011 invited seminar talk *Drift-Diffusion type models for Organic Photovoltaic Devices*, King Abdullah University of Science and Technology, Saudi Arabia

Linz 01/2011 invited seminar talk *Drift-Diffusion type models of Organic Photovoltaic Devices*, RICAM, Linz, Austria

Munich 12/2010 invited seminar *Aggregation pattern of gradient flows with repulsive-aggregating interaction potential*, Technical University Munich, Germany

Oberwolfach 12/2010 workshop on Classical and Quantum Mechanical Models of Many-Particle Systems, Oberwolfach, Germany

Edinburgh 11/2010 invited talk *Aggregation-pattern due to repulsive-aggregating interaction potentials*, Edinburgh, UK

Southampton 09/2010 workshop on the Mathematical Model in Photovoltaic Devices, Southampton, UK

Newton Institute 09/2010 invited talk *Aggregation-pattern due to repulsive-aggregating interaction potentials*, Cambridge, UK

Graz 07/2010 invited interview talk *The Entropy Method in Non-linear Dissipative Partial Differential Equations* Graz, Austria

Weissensee 07/2010 invited short course on *Coagulation-Fragmentation Models* WK-Summer Camp, Techendorf, Austria

Barcelona 06/2010 invited minisymposium talk *Entropy Methods for Semiconductors and Related Drift-Diffusion-Reaction Models*, SIAM DSPDE's Conference, Barcelona, Spain

Barcelona 06/2010 invited minisymposium talk *Discrete and Continuous Coagulation-Fragmentation Models with Diffusion*, SIAM DSPDE's Conference, Barcelona, Spain

Barcelona 05/2010 invited minisymposium talk *Aggregation-pattern in non-local interaction equations with repulsive-aggregating potentials*, SIAM DSPDE's Conference, Barcelona, Spain

Banff 05/2010 invited talk *Aggregation-pattern in locally repulsive interaction equations: Stability and Limiting Behaviour*, BIRS on Nonlinear Diffusion and Entropy Dissipation, Banff, Canada

Melbourne 04/2010 invited colloquium talk *Aggregation-pattern in non-local equations with locally repulsive interaction potentials*, University of Melbourne, Australia

KAUST 03/2010 invited seminar talk *The repulsive-aggregating dynamics in non-local interaction equations*, King Abdullah University of Science and Technology, Saudi Arabia

Vienna 03/2010 Habilitation lecture *Entropy methods in reaction-diffusion systems and coagulation-fragmentation models*, University of Vienna, Austria

Havanna 02/2010 invited talk *Stationary states of non-local interaction equations*, 9th ICOR, Havanna, Cuba

Cambridge 09/2009 invited talk *Stationary states of non-local interaction equations*, Universitat Autonoma Madrid - CMS Cambridge Days, Cambridge

Alba Adriatica 09/2009 invited six hour course *The many sides of reaction-diffusion systems: An introduction*, Mathmods Intensive Programme, University of L'Aquila, Italy

Edinburgh 07/2009 invited talk *On non-local interaction equations*, workshop Kinetic and Mean-field Models, ICMS, Edinburgh

Victoria 07/2009 invited talk *Coagulation-Fragmentation Models with Diffusion*, workshop Topics in Kinetic Theory, Univerity of Victoria, Canada

Barcelona 05/2009 invited Biomathtical Seminar *Non-local evolution equations with repulsive–aggregating potentials*, Universitat Autonoma Barcelona, Spain

Southampton 05/2009 invited Applied Math Colloquium *The dynamics of non-local evolution equations*, University of Southampton, UK

Angra dos Reis 03/2009 invited talk *On a non-local repulsion-aggregation model*, workshop on Mathematical Methods and Modeling of Biophysical Phenomena, Angra dos Reis, Brasil

Paris 02/2009 invited lecture *Introduction to Reaction-Diffusion Equations*, University Paris IX, Dauphine, France.

Berlin 10/2008 study group on Thin Film Solar Cells, WWAS, Matheon

Mantova 05/2008 invited talk *A nonlocal repulsion-aggregation model: Steady States, Stability, Bifurcations*, Conference on Kinetic Equations: Direct and Inverse Problems, Italy

UCLA 03/2008 invited talk *The inhomogeneous Aizenman-Bak model and a nonlocal repulsion-aggregation model* IPAM, workshop OTWS1, California

L'Aquila 12/2007 invited seminar *Entropy methods for Systems Combining Diffusion and Nonlinear Reaction*, Italy

Vienna 08/2007 invited talk *The Inhomogeneous Aizenman-Bak model: Convergence to Equilibrium and Fast-Reaction Limit*, EQUADIFF 2007, Austia

Oberwolfach 12/2006 invited talk *The Inhomogeneous Aizenman-Bak model: Convergence to Equilibrium and Fast-Reaction Limit*, workshop *Classical and Quantum Mechanical Models of Many-Particle Systems*, Germany

Weissensee 07/2006 shortcourse *Diffusive Coagulation-Fragmentation Systems*, WK-- Summercamp, Austria

Poitiers 06/2006 invited talk *Convergence to Equilibrium for the inhomogeneous Aizenman-Bak model*, 6th AIMS Conference, University of Poitiers, France

Banff 04/2006 invited talk *Entropy Methods for Systems Combining Diffusion and Nonlinear Reaction*, BIRS workshop on Nonlinear diffusions, Canada

Barcelona 11/2005 seminar talk *Entropy in Systems Combining Diffusion and Reaction*, Barcelona, Spain

Klagenfurt 09/2005 talk *Entropy Methods in Systems Combining Diffusion and Nonlinear Reaction* SIAM, DMV, ÖMG Conference, Klagenfurt, Austria

Vienna 10/2004 WK-seminar talk *Entropy Methods in Diffusive Systems*, University of Vienna, Austria

Melbourne 08/2004 seminar *Explicit Convergence to Equilibrium in Diffusive Equations*, University of Melbourne, Australia

Paris 05/2004 seminar talk, *Convergence to Equilibrium for Reaction-Diffusion Systems*, Université Paris Dauphine, France

Oberwolfach 11/2003 invited talk *Convergence to Equilibrium for Reaction-Diffusion Systems* at the Conference *Classical and Quantum Mechanical Models of Many-Particle Systems*, Germany

Bolzano 09/2003 talk *Applying Entropy Entropy-Dissipation Methods* at the bilateral ÖMG meeting 2003, Italy

Paris 05/2003 seminar talk *A Kinetic Equation Modelling Cometary Flow*, Universiteé Paris Dauphine

Barcelona 03/2003 seminar talk *Convergence to global equilibrium for spatially inhomogeneous kinetic models*, Universitat Autònoma de Barcelona, Spain

Granada 02/2003 seminar talk *Burgers-Poisson: A nonlinear dispersive model*, Universidad de Granada, Spain

Skills / Achievements / Hoppies

Languages German (native), English (fluently), French (Pas mal), Spanish (basics)

Music Bassonist of the Grazer University Orchestra

Sport Tai Chi, Vienna City marathon 2002, Graz marathon 2001

Theatre founding member of the *Kleine Bühne Ebensee*

Management 2001-2005 member of the commitee of the Orchestra of the Vienna University of Technology (responsible for finances)

IT C, Fortran, Excel, Matlab, Maple, Mathematica, Maya, 3DMax, . . . Linux, MAC & Windows