Curriculum Vitæ

Personal informations

Name	Trussardi Lara
Professional address	Institut für Mathematik und Wissenschaftliches Rechnen Heinrichstraße 36 8010 Graz (Austria)
E-mail	lara.trussardi@uni-graz.at
Personal web page	https://imsc.uni-graz.at/trussardi

Main areas of research

Non linear partial differential equations, modelling, nonlocal Cahn-Hilliar equation, cross-diffusion systems, kinetic models, GENERIC formulation, applications in human and social sciences, numerical schemes and simulations

Current situation and former positions

10.2023–now	Tenure Track Professor in Applied Mathematics at the University of Graz (Austria)
10.2021– 09.2023	Juniorprofessor in Mathematical Physics (W1) at the University of Konstanz (Germany)
10.2017–09.2021	Post-doc position at the University of Vienna (Austria) – Maria Jahoda Grant and member of Ulisse Stefanelli's group
10.2016–09.2017	Post-doc position at INRIA, Paris (France) under the supervision of Laurent Boudin

PhD

2013–2016 Ph.D. student, Marie-Curie ITN "Novel Methods in Computational Finance" (STRIKE) - TU Wien (Austria)
Subject: Kinetic and diffusion equations for socio-economic scenarios
Supervisor: Ansgar Jüngel

Education

2011–2012	Erasmus Program at LJLL, UPMC (France)
2010–2012	Master Degree in Mathematics, University of Pavia (Italy)
2007–2010	Bachelor Degree, Department of Mathematics, University of Pavia (Italy)

Grants

October 2022 **DFG Grant** for International Scientific Events, 9600Euro
EMS Support, 4500Euro
financial support for organising the conference "Cross-Diffusion Systems: Analysis and Stochastics", February 27-March 3, 2023

February 2021 **Maria Jahoda Grant**, 30K Euro
Grant for female, highly qualified postdoctoral researchers who had to reduce or interrupt their research activities because of care obligations in their families or close environment.

Publications and pre-publications

- Articles published or accepted in peer reviewed journal

- *On the rate of convergence of Yosida approximation for the nonlocal Cahn-Hilliard equation* with P. Gwiazda, J. Skrzeczkowski to appear in IMA Journal of Numerical Analysis.

- *Concentration effects in a kinetic model with wealth and knowledge exchanges* with L. Boudin to appear in La Matematica.
- *A minimizing-movements approach to GENERIC systems* with A. Jüngel, U. Stefanelli published in Mathematics in Engineering 4(1), 1–18, (2022)
- *Local asymptotics for nonlocal convective Cahn-Hilliard equations with $W^{1,1}$ kernel and singular potential* with E. Davoli, L. Scarpa published in Journal of Differential Equations 289, 35–58, (2021)
- *Nonlocal-to-local convergence of Cahn-Hilliard equations: Neumann boundary conditions and viscosity terms* with E. Davoli, L. Scarpa published in Archive for Rational Mechanics and Analysis 239(1), 117–149, (2021)
- *Degenerate nonlocal Cahn-Hilliard equations: well-posedness, regularity and local asymptotics* with E. Davoli, H. Ranetbauer, L. Scarpa published in Ann. Inst. H. Poincaré Anal. Non Linéaire 37, 627–651, (2020)
- *From nonlocal to local Cahn-Hilliard equation* with S. Melchionna, H. Ranetbauer, L. Scarpa published in Adv. Math. Sci. Appl., 28(2): 197–211, (2019)
- *Two time discretizations for gradient flows exactly replicating energy dissipation* with A. Jüngel, U. Stefanelli published in Appl. Math. Optim. 80(3), 733–764, (2019)
- *A kinetic equation for economic value estimation with irrationality and herding* with B. Düring, A. Jüngel published in Kinetic and Related Models, 10(1): 239–261, (2017)
- *A meeting point of entropy and bifurcations in cross-diffusion herding* with C. Kuehn, A. Jüngel published in the European Journal of Applied Mathematics, 28(2): 317–356, (2017)

- Articles submitted

- *Local asymptotics and optimal control for a viscous Cahn-Hilliard-Reaction-Diffusion model for tumor growth* with E. Davoli, E. Rocca, L. Scarpa.

-Others

- PhD Thesis: *Kinetic and diffusion equations for socio-economic scenarios*
  Available on HAL: https://tel.archives-ouvertes.fr/tel-01392196
- *Modeling of Herding and Wealth Distribution in Large Markets* (A. Jüngel, L.T.) Chapter in: M. Ehrhardt, M. Günther, J. ter Maten (eds.). Novel Methods in Computational Finance. Mathematics in Industry, Vol. 25, pp. 17–29. Springer, Cham (2017)
- *Analyse d'images de pales d'éoliennes* (A. Nicolopoulos, N. Riane, A. Saint-Dizier, L. T.) report of the SEME, Paris 2017
  Available on HAL (article in French): https://hal.archives-ouvertes.fr/hal-01651796

Research visits

2023 **November** 20-23: University of Vienna (Austria) - Host: Sara Merino Aceituno
February 13-17: TU Wien (Austria) - Host: Elisa Davoli

2022 **February** 28-**March** 4: IMPAN, Warsaw (Poland) - Host: Piotr Gwiazda, *Simons semester*

2021 **November** 29-**December** 3: IMPAN, Warsaw (Poland) - Host: Piotr Gwiazda, *Simons semester*

2018 **December** 17-21: University Pierre et Marie Curie, Paris (France) - Host: Marco Caponigro and Laurent Boudin
September 17-21: University of Pavia (Italy) - Host: Elisabetta Rocca
July 16-20: University Pierre et Marie Curie, Paris (France) - Host: Laurent Boudin

2016 **March** 21-25: University Pierre et Marie Curie, Paris (France) - Host: Laurent Boudin

2015 **November** 23-27: University Pierre et Marie Curie, Paris (France) - Host: Laurent Boudin
July 13-24: University Pierre et Marie Curie, Paris (France) - Host: Laurent Boudin
May 18-29: Sussex University, Brighton (UK) - Host: Bertram Düring

February 9-13: University Pierre et Marie Curie, Paris (France) - Host: Laurent Boudin

2013 **April** 28-**May** 16: Sussex University, Brighton (UK) - Host: Bertram Düring

Teaching (BA = bacherlor, MA = master)

SS24	*University of Graz*
	BA Lecture "Modellierung"
	Seminar "Applied Analysis, Complex Systems and Dynamics" (coorganiser)
WS23–24	*University of Graz*
	MA Seminar "Applied Mathematics"
	MA Mathematisches Seminar (Lehramt)
SS23	*University of Konstanz, Department of Mathematics and Statistics*
	MA Seminar "Long time behaviour for the Keller-Segel model"
	Research seminar in PDEs (coorganiser)
WS22–23	*University of Konstanz, Department of Mathematics and Statistics*
	BA Lecture "Theorie partielle Differentiellegleichungen"
	MA Lecture "Dynamical Aspects of PDEs"
	BA Fachseminar Analysis for Bachelor students
	Research seminar in PDEs (coorganiser)
SS22	*University of Konstanz, Department of Mathematics and Statistics*
	BA Lecture "Einführung in die Theorie der Dynamischen Systeme"
	MA Seminar "Modelling and Analysis of Dynamic Continua"
	Research seminar in PDEs (coorganiser)
WS21–22	*University of Konstanz, Department of Mathematics and Statistics*
	MA Lecture "PDEs in Mathematical Physics"
	Research seminar in PDEs (coorganiser)
WS19–20	*University of Vienna, Department Earth Sciences*
	BA Lecture "Mathematik 1"
WS18–19	*University of Vienna, Department Earth Sciences*
	BA Lecture "Mathematik 1"

Mentoring

2023, ongoing Ph.D.	Tamari Kldiashvili, University of Graz
2023, B.Sc.	Bernhard Eisvogel, *Verkehrsflussmodellierung mit Hilfe des LWR- und ARZ-Modells*, University of Konstanz
2023, B.Sc.	Raphael Schwenzer, *Pseudo-Liouville-Operator für harte elastische Kugeln*, University of Konstanz (*thesis in Mathematics and Physics*)
2023, M.Sc.	Selina Hoffmann, *Microscopic and Mesoscopic Description of the Cucker-Smale and the Motsch-Tadmor Model*, University of Konstanz

Languages

Italian	Mother tongue
French	Fluent
English	Fluent
German	Fluent

Last update: March 13, 2024