Dr. Jana Lasser

Curriculum Vitae

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Career summary

since 2021 **Postdoctoral researcher (Feb. 2022 – Jan 2024 Marie Curie Fellow)**, *TU Graz, Institute for Interactive Systems and Data Science, Computational Social Science Lab*, research focus: Machine learning, natural language processing, statistical modelling and computational modelling to understand complex social systems with applications in computational psychology, social network analysis, epidemiology, social science and political science.
Graz, Austria

2020 **Postdoctoral researcher**, *Complexity Science Hub (CSH), Medical University Vienna*, research focus: big data analytics and machine learning with applications in digital health and veterinary medicine. Computational modelling of complex social systems with applications in epidemiology.
Vienna, Austria

2019 **Postdoctoral researcher part time**, *MPIDS, Department of Complex Fluids*, research focus: numerical modelling and data analysis to understand geophysical pattern formation processes.
Göttingen, Germany

2019 **Postdoctoral researcher part time**, *Georg-August-University, Centre for Statistics*, tasks: development and implementation of a Data Science curriculum, management of project "Daten Lesen Lernen".
Göttingen, Germany

2015–2018 **Doctoral researcher**, *MPIDS, Department of Complex Fluids, Goehring lab*, research focus: understanding of geophysical pattern formation processes through field studies, analogue experiments, numerical simulations and modelling.
Göttingen, Germany

2013–2015 **Scientific assistant**, *MPIDS*, development of "NET", a framework for the automated extraction of network data from high resolution images.
Göttingen, Germany

Education

2015–2018 **Dr. rer. nat. Physics**, *Georg-August-University and Göttingen Graduate School for Neurosciences, Biophysics, and Molecular Biosciences (GGNB)*, Göttingen, Germany.
Advisor: Prof. Lucas Goehring
Thesis: *Geophysical pattern formation of salt playa*
Grade: magna cum laude

2013–2015 **M.Sc. Physics**, *Georg-August-University and Max Planck Institute for Dynamics and Self-Organization (MPIDS)*, Göttingen, Germany.
Advisor: Prof. Eleni Katifori
Thesis: *Network analysis and hidden phenotypes in large biological datasets*
Grade: 1.1

2009–2013 **B.Sc. Physics**, *Georg-August-University and MPIDS*, Göttingen, Germany.
Advisor: Prof. Eleni Katifori
Thesis: *Computational analysis framework for vascular network images*
Grade 2.4

2009 **Matura**, *Realgymnasium Dreierschützengasse*, Graz, Austria.
Grade: 1.0

Additional qualifications

2022 **Didactics module "basic"**, *Teaching Academy TU Graz*, Qualification for independent teaching at higher education institutions.
40 hours

2021 **Summer School**, *Oxford Machine Learning Summer School*, Latest developments in computer vision, graph ML, natural language processing and ML for health applications.
80 hours

2021 **Summer School**, *Summer Institutes in Computational Social Science (SICSS) in Helsinki*, Network analysis, simulations and complex systems, validity and reliability of CSS, research ethics for CSS.
80 hours

2019 **Leadership training**, *German Physical Society program "Leading for Tomorrow"*, core competencies of leadership and management in industrial and higher education contexts.
56 hours

2018 **Project management**, *GGNB*, Fundamental and advanced competencies in agile project management.
40 hours

University teaching

2022 **Computational Social Science Summer School (SICSS)**, *Two-week summer school with lectures, group problem sets, and participant-led research projects to give an introduction to the field of Computational Social Science, for details see lecture materials*, target group: social scientists and computer scientists, master-level and above, TU Graz & RWTH Aachen, ECTS: 4, 40 students.
Role: lecturer

2022 **Computational Models of Social Systems**, *Computational models for social systems: game of life, agent-based models, network models, advanced programming in python. For details see lecture materials*, target group: students of the Computational Social Systems master, TU Graz, ECTS: 4, lecture with exercises with ≈ 70 students.
Role: lecturer

2021 **Foundations of Computational Social Systems**, *Introduction to Computational Social Science (CSS), basics of programming (R), data acquisition and handling, visualization and statistics, network analysis, ethical aspects of CSS. For details see lecture materials*, target group: students of the Computational Social Systems master, TU Graz, ECTS: 4, lecture with exercises with ≈ 70 students.
Role: lecturer

2019 **Daten Lesen Lernen**, *Basics of programming (Python), data handling, visualization and statistics. For details see lecture materials*, target group: bachelor students with all backgrounds, University of Göttingen ECTS: 6, lecture with exercises with ≈ 30 students.
Role: lecturer

2017–2018 **Introduction to Data Science**, *Data handling, visualization, statistics and basics of machine learning (clustering, neural networks). For details see lecture materials*, target group: physics master students, biology, neuroscience and physics PhD students, University of Göttingen, ECTS: 4, lecture with exercises with ≈ 40 students.
Role: lecturer

2017 **Pattern recognition and machine learning**, *Basics of modern machine learning techniques, including (logistic) regression, clustering, SVMs and neural nets*, target group: physics master students, University of Göttingen, ECTS: 6, lecture with exercises with ≈ 50 students.
Role: teaching assistant

2015 **Introduction to interactive network analysis in Python**, *Handling and analysis of networks using NetworkX and graph-tool*, target group: biology, neuroscience and physics PhD students, University of Göttingen, ECTS: 2, lecture with exercices with ≈ 20 students.
Role: lecturer

2015 **Experimental physics for non-physicists**, *Basic concepts from physics including mechanics, fluid dynamics, thermodynamics and electrostatics*, target group: medicine undergraduates, University of Göttingen, ECTS: 6, lecture with exercises with ≈ 30 students in my tutorial.
Role: teaching assistant

Other teaching activities

2021 **Digital Transformation in Research**, *Digital methods in research, including literature management and search, good coding practices, best practices for open and transparent research and science communication. For details see lecture materials*, target group: PhD students and PostDocs, Ludwig Boltzmann Society, 2 day block course with 15 students.
Role: lecturer

2019 **Live hack session "Does Donald Trump have the best words?"**, *Live demonstration of a data analysis process using Twitter data of Donald Trump and Russian trolls. For details see lecture materials*, target group: bachelor students with all backgrounds, University of Göttingen, 3 hours.
Role: lecturer

2016 **Programming from women for women**, *Introduction to programming for students without any prior programming knowledge. For details see lecture materials*, target group: geology and geography bachelor and master students, University of Göttingen, 2 day block course.
Role: lecturer

Student supervision

2021–present **PhD thesis**, *A computational taxonomy of problem coping strategies*, student: Alina Herderich.
Role: co-supervision, TU Graz

2022–present **PhD thesis**, *Emotional Misinformation*, student: Jula Luehring.
Role: co-supervision, Uni Vienna

2022–present **Master's thesis**, *Applying network analysis and machine learning approaches to understand the dynamics of political polarization in real-time*, student: Elisabeth Höldrich.
Role: supervisor, TU Graz

2021–2022 **Master's thesis**, *Misinformation detection with multimodal data*, student: Valentin Rupp.
Role: daily supervisor, TU Vienna & Complexity Science Hub Vienna

2021–2022 **Intern**, *A data driven approach to find the most pressing questions for young mothers*, student: Magdalena Fritz.
Role: daily supervisor, TU Vienna & Complexity Science Hub Vienna

2021–2022 **Intern**, *Exploring the #IchBinHanna movement through digital traces on Twitter*, student: Ahmadou Wagne.
Role: daily supervisor, TU Vienna & Complexity Science Hub Vienna

2021 **Intern**, *Exploring the #IchBinHanna movement through digital traces on Twitter*, student: Elen Le Foll.
Role: daily supervisor, Osnabrück University

2017 **Master's thesis**, *Numerical simulation of pattern formation in salt-paya*, student: Marcel Ernst.
Role: daily supervisor, University of Göttingen & MPIDS

2016 **Bachelor's thesis**, *Porous Media Flows in 3D Environments*, student: Birte Thiede.
Role: daily supervisor, University of Göttingen & MPIDS

Service

2022–present **Ethics commission**, *TU Graz*, member.

2022–present **Senate**, *TU Graz*, member.

2022 **Selection committee**, *CZS Wildcard, Carl Zeiss foundation*, member.

2021–present **Studienkommission**, *Master's programme Computational Social Systems at TU Graz*, vice chair.

2021–present **Network against Abuse of Power in Science**, *(MaWi)*, board member.

2020–present **COST action**, *"Researcher Mental Health"*, management committee, leader survey working group.

2019–present **N^2**, *network of German non-university PhD representations*, advisory board member.

2019–present **International Young Physicists' Tournament**, *(IYPT)*, juror.

2018 **Max Planck PhDnet**, *representation of doctoral researchers of the Max Planck Society*, president.

Reviewing activity

- **Journals:** Nature Communications, EPJ Data Science, Journal of Social Computing, Cliodynamics, Epidemics, Journal of Science Communication
- **Conferences:** The Web Conference 2021, Open Science Conference 2021

Memberships and affiliations

since 2021 **Associate faculty**, *Complexity Science Hub Vienna*.

since 2009 **Member**, *German Physical Society*.

Shortlisted positions

2022 **Assistant Professor of Complexity Science for Societal Good**, *TU Vienna*.

Prizes

2022 "Mind the Gap" diversity award from *TU Graz*, for the project "(Wen) regt Frauenfußball auf?", together with Max Pellert. **450 €**

2018–2021 Award by the German *Stifterverband & Heinz-Nixdorf Foundation* to realise the project "Daten Lesen Lernen" at the University of Göttingen, together with Thomas Kneib, Benjamin Säfken, Alexander Silbersdorff, Wolfgang Radenbach and Debsankha Manik. **250 000 €**

2015 Dr. Berliner - Dr. Ungewitter prize for an outstanding master thesis *University of Göttingen*.

Talks

- *Social media sharing by political elites: An asymmetric American exceptionalism*.
  63rd annual meeting of the Psychonomic Society, 2022, contributed talk.
- *New conceptions of truth foster sharing of unreliable sources in online public political discourse*.
  Social Psychology Seminar, University of Kent, 2022, invited talk.
- *Taxonomy and automated detection of counterspeech strategies using deep learning models*.
  The Aarhus '22 Conference on Online Hostility and Bystanders, 2022, contributed talk.
- *Complex Computational Social Science - Chancen & Herausforderungen*.
  Elevate Festival, 2022, invited talk.
- *Assessing the effectiveness of COVID intervention measures in small communities using agent-based simulations*.
  DPG meeting of the condensed matter section, 2022, contributed talk.
- *Calibrating school models to cluster tracing data*.
  Newton Gateway to Mathematics workshop on *Controlling COVID-19 in Schools: Lessons Learned and Open Questions*, 2022, invited talk.
- *Scientific freedom is not for everyone*.
  Workshop on *Structural flaws in the science system - and how to fix them*, 2022, invited talk.
- *Agent-based simulation to asses the effectiveness of COVID-19 prevention measures in schools*.
  Workshop COVID-19 Update im Billrothhaus - Meet the Experts: Das Neueste aus Klinik und Forschung in Österreich, 2021, invited talk.
- *Agent-based simulation to asses the effectiveness of COVID-19 prevention measures in schools*.
  NetSci, 2021, contributed talk.
- *Agent-based simulation to asses the effectiveness of COVID-19 prevention measures in schools*.
  IC2S2, 2021, contributed talk.
- *Open science, but correctly! Interacting with new forms of openness in research and society*.
  Metascience, 2021, contributed talk.
- *Stability and dynamics of convection in dry salt lakes*.
  DPG meeting of the condensed matter section, 2019, contributed talk.

Grants and fellowships

2021	**Fellowship** "Staying at home - the interplay between behavioural synchronisation and physical distancing in prosocial behaviour", individual fellowship, funding agency: *European Commission, Marie Skłodowska-Curie grant No. 101026507*.	**174 167 €**
2021	**Grant** "Joint online course" to implement a partner location of the "Summer Institutes for Computational Social Science" (SICSS) in collaboration with RWTH Aachen, funding agency: *TU Graz*, role: principal investigator.	**15 000 €**
2020–2024	**Grant** "Researcher mental health observatory", funding agency: *European Commission, COST action no. CA19117*, role: secondary proposer	**472 000 €**
2019–2020	**Fellowship** "Freies Wissen" to realise the project "executable papers", funding agency: *Wikimedia Foundation*.	**10 000 €**
2019	**Grant** "Daten Lesen Lernen – connecting 4 Data Literacy", program "Innovation Plus", funding agency: *Lower Saxony Ministry for Science and Culture*, role: proposer, together with Thomas Kneib, Benjamin Säfken, Alexander Silbersdorff and Wolfgang Radenbach.	**48 630 €**
2018	**Fellowship** to attend the Lindau Nobel Laureate meeting, funding agency: *Max Planck Society*.	
2017–2018	**Grant** to realise a field study on geophysical pattern formation in salt deserts in California, funding agency: *DAAD*, role: principal investigator.	**10 000 €**
2015–2017	**Fellowship** to realise my dissertation project on geophysical pattern formation in salt playa, funding agency: *GGNB*.	**40 000 €**
2014, 2017	**Fellowship** to attend the European Forum Alpbach, funding agency: *Club Alpbach Styria*.	

Selected media reactions

- *Republicans are increasingly sharing misinformation, research finds*, The Washington Post – Monkey Cage, 2022.
- *US politicians tweet far more misinformation than those in the UK and Germany – new research*, The Conversation, 2022.
- *Stresstest zur Ärzteversorgung zeigt große regionale Unterschiede [Stress-testing the primary care network shows large regional differences]*, Die Presse, 2022.
- *Warum der Blick in die Zukunft so schwierig ist [Why predicting the future is hard]*, Der Standard, 2022.
- *Von Kuh-Daten und Menschen [About data from cows, and humans]*, Ö1, 2022.
- *Omikron erschwert Pandemiebekämpfung an Schulen [Omikron is making it hard to deal with COVID19 outbreaks in schools]*, Der Standard, 2022.
- *Zur Praxis der Modellierung [About computational modelling]*, Technopolitics, 2021.
- *Richtiges Testen kann Corona-Ausbrüche in Altersheimen unterbinden [The right testing strategy can prevent Corona outbreaks in nursing homes]*, Der Standard, 2021.
- *Gut gemachte Apps können bei der Krisenbewältigung helfen [Well-made apps can help deal with mental health crises]*, Kurier 2020.
- *Making a difference*, Physics World, 2019.
- *Facetten der Macht: Abhängigkeiten und Machtstrukturen in der Wissenschaft [Facets of power: hierarchy and multiple dependencies in academia]*, Deutschlandfunk, 2020.
- *Göttinger Studierende lernen das Auswerten von Datensätzen [Students at the University of Göttingen learn how to make sense of data]*, Göttinger Tageblatt, 2019.
- *Q&A: Doctoral students at Germany's Max Planck Society say recent troubles highlight need for change*, Science Magazine, 2018

Language skills

German **Native**.

English **Fluent**, *working language*.

French **Basic**, *school education*.

Spanish **Basic**, *school education and student exchange*.

Computer skills

Expert Python (NumPy, Pandas, SciPy, scikit-learn, transformers, NetworkX, statsmodels)

User CUDA, C, R, Git, Linux

Basic C++, Java, MATLAB, C#, Julia, LabView

Personal interests

Hiking, martial arts, board games, computer games, science policy