

Moritz Nikolaus Laber

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Research Interests

network science | machine learning | complex systems

Education

Northeastern University, Boston, United States since Sep. 2022
Network Science, PhD
Advisors: Brennan Klein & Alessandro Vespignani

University of Vienna & Complexity Science Hub Vienna, Vienna, Austria Oct. 2020 – Aug. 2022
Computational Science, Master of Science (1.0, with distinction)
Thesis: Systemic Risk in the global food-supply chain network *Advisors:* Peter Klimek & Stefan Thurner

Karlsruhe Institute of Technology, Karlsruhe, Germany Apr. 2018 – Sep. 2020
Physics, Master of Science (1.0, with distinction)
Thesis: Carbon-Nanotube-Squids – Exploring Superconductor-Quantum-Dot-Junctions, *Advisor:* W. Wernsdorfer

Karlsruhe Institute of Technology, Karlsruhe Germany Oct. 2014 – Mar. 2018
Physics, Bachelor of Science (1.4)
Thesis: Dark-Matter in the N2HDM, *Advisor:* Margarethe M. Mühlleitner

Publications

Laber M., Klimek K., Bruckner M., Yang L., & Thurner, S. *Shock propagation from the Russia–Ukraine conflict on international multilayer food production network determines global food availability*; *Nat Food* **4**, 508–517 (2023)

Conference Presentations

NetSci 2023, Poster: *Higher-order random walkers: Blob diffusion on complex networks* Jul. 2023

NetSci 2022, Contributed Talk: *Systemic risk in the multilayer-network of global production and trade of food* Jul. 2022

Awards and Honors

Junior Fellow, Complexity Science Hub Vienna since Jan. 2022

Dean's List, University of Vienna Faculty of Physics Dec. 2022

Internships

Institute of Science and Technology Austria, Klosterneuburg, Austria Mar. 2018 – Jun. 2018
Scientific Internship. *Supervisor:* Johannes Fink

Service to Profession

Program Committee Member, International Conference and School on Network Science (NetSci2024)	Jun. 2024
Co-Organizer, NetSI Lecture Series in Complex Systems and Artificial Intelligence	Jan. 2023 – Apr. 2023
Event-Coordinator, Network Science Institute Graduate Student Association	Feb. 2023 – Sep. 2024
Organizer, Paper Unwind Seminar at NetSI	since Dec. 2022

Teaching Experience and Course Design

Network Science 2 (Teaching Assistant) Northeastern University, Network Science Institute	Jan. 2024 – Apr. 2024
Information Theory & Bayesian Inference for Complex Systems Northeastern University, Network Science Institute	Sep. 2022 – Dec. 2022
Mathematics for Physicist I (Tutor) Karlsruhe Institute of Technology, Institute for Analysis	Apr. 2016 – Sep. 2020
Mathematics for Physicist II (Tutor) Karlsruhe Institute of Technology, Institute for Analysis	Apr. 2016 – Sep. 2020
Physics for Engineers Bootcamp (Tutor) Karlsruhe University of Applied Sciences	Sep. 2018, 2019, Mar. 2020

Schools & Workshops

IAIFI Summer School & Summer Workshop Cambridge, United States	Aug. 2024
Cambridge ELLIS Unit Summer School on Probabilistic Machine Learning Cambridge, United Kingdom	Jul. 2024
Generative Modelling Summer School (GeMSS) Eindhoven, Netherlands	Jun. 2024
Complex Networks Winter Workshop (CNWW) Québec, Canada	Dec. 2023
CSH Winter School on Green Transition Obergurgl, Austria	Apr. 2022
Max Planck Institute for the Science of Light: Autumn Academy Erlangen, Germany	Oct. 2018
German Physical Society: Theory Workshop on Fractals and Non-Linear Physics Bacharach, Germany	Jan. 2018

Organization Memberships

Network Science Society (NetSci), Member	since 2022
German Physical Society (DPG), Member	since 2014

CV

last update: 2024/05/03

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Skills:

Programming: Python, JAX, Julia, C++, SQL, MATLAB

Language: English (fluent), French (beginner), German (native), Latin (proficient)