Liora Rueff

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Office: ETH HG G 53.2
Date & Place of Birth: 05/09/1998, Zurich

EDUCATION

PhD in Applied Mathematics   10/2022 – present
ETH Zurich, Switzerland
Conducting research at the intersection of theoretical physics and applied mathematics,
focusing on wave propagation under the supervision of Prof. Habib Ammari.

MSc in Mathematical Modelling and Scientific Computing,   09/2021 – 09/2022
Overall Grade: Distinction
University of Oxford, UK
Master's course (90 ECTS) including a dissertation:
"Modelling Solidification during Fracture Propagation", supervised by Prof. Ian Hewitt.

BSc UZH in Mathematics, Overall Grade: summa cum laude   09/2018 – 08/2021
University of Zurich, Switzerland
Major (150 ECTS) in Mathematics with a minor (30 ECTS) in Earth System Science.

ETH Math Youth Academy   09/2016 – 07/2017
ETH Zurich, Switzerland

Baccalauréat Certificate   08/2013 – 07/2017
Kantonsschule Enge in Zurich, Switzerland
Specialisation: Economics and Law

RELEVANT WORK EXPERIENCE

Doctoral Researcher   10/2022 – present
ETH Zurich, Switzerland
- 2024: Group organiser at the Seminar for Applied Mathematics
  (managing teaching duties and hiring student assistants).
- Spring Semester 2024: Course co-organiser for "Numerische Methoden D-ITET & D-PHYS".
- Spring Semester 2023: Course organiser for "Numerische Methoden D-ITET".

Teaching Assistant   09/2020 – 12/2021
University of Zurich, Switzerland
- Taught classes, corrected problem sheets, and managed online forums for the lectures
  "Analysis for Natural Sciences", "Stochastics for Natural Sciences" & "Numerics I".

Web-Application Developer (part-time)   05/2019 – 10/2021
Dean's office of the Faculty of Science, University of Zurich
- Developed and implemented (full-stack) online tools for the Faculty of Science.

Research Intern   07/2021 – 09/2021
Università della Svizzera Italiana Lugano, Switzerland
Research internship at the Euler Institute in the research group of
Prof. Rolf Krause in the field of machine learning (natural language processing).
- Studied and independently implemented the transformer network in PyTorch.
- Developed a conda package.

PUBLICATIONS & CONFERENCES

Submitted Preprint:
- Habib Ammari, Erik Orvehed Hiltunen, and Liora Rueff. Space-Time Wave Localisation in Systems of Subwavelength Resonators, 2024; https://doi.org/10.48550/arXiv.2409.10100.

Published Paper:
- Habib Ammari, Jinghao Cao, Erik Orvehed Hiltunen, and Liora Rueff. Scattering from time-modulated subwavelength resonators, Proc. A., 480(2289):Paper No. 20240177, 22, 2024. https://doi.org/10.1098/rspa.2024.0177.
- Habib Ammari, Jinghao Cao, Erik Orvehed Hiltunen, and Liora Rueff. Transmission properties of time-dependent one-dimensional metamaterials. *J. Math. Phys.* 1 December 2023; 64 (12): 121502. https://doi.org/10.1063/5.0143778.

Conferences & Summer Schools:
- Zurich CH, July 2024: Series of Lectures on Waves and Imaging
- Berlin DE, July 2024: WAVES 2024 (presentation: "Wave interaction with time-modulated subwavelength resonators in one dimension")
- Auburn AL, May 2024: The CBMS Conference: Mathematical Methods for Novel Metamaterials
- Disentis CH, July 2023: NumPDE Summer Retreat (presentation: "Wave interaction of subwavelength resonators in one dimension")
- Zurich CH, July 2023: Mathematical Aspects of Condensed Matter Physics (presentation: "Wave interaction of subwavelength resonators in one dimension")
- Bern CH, June 2023: Swiss Numerics Day

EXTRACURRICULAR & VOLUNTARY WORK

Member of the Communication Commission of D-MATH   05/2023 – present
ETH Zurich, Switzerland
Actively involved in decision-making processes for various projects at the
mathematics department of ETH Zurich.

Board Member of the Association of the Academic Mid-level Faculty (VMM)   05/2023 – present
ETH Zurich, Switzerland
Responsible for communication matters and the development and
maintenance of the website.

Participant of the Project "Likrat"   09/2014 – 09/2022
Swiss Federation of Jewish Communities, Switzerland
Involved in a project supported by the Swiss Government to prevent
antisemitism and racism.

Student Representative   09/2021 – 09/2022
University of Oxford, UK
Represented students of my degree programme in the supervisory committee.

Board Member of the Student Association of Mathematics   08/2019 – 09/2021
University of Zurich, Switzerland
Responsible for projects about career opportunities in mathematics and the
development and maintenance of the website.

SKILLS

Languages: (Swiss-)German (native), English (fluent), Hebrew (fluent), French (good), Russian (basic)

IT-Skills: MatLab, Python, HTML, Git, SQL, LaTex, CSS, PHP, R, Conda