

# Liora Rueff

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Date & Place of Birth: 05/09/1998, Zurich  
Nationality: Swiss



## EDUCATION

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<b>PhD in Applied Mathematics</b> 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.	10/2022 – present
<b>MSc in Mathematical Modelling and Scientific Computing,</b> <b>Overall Grade: Distinction</b> University of Oxford, UK Master's course (90 ECTS) including a dissertation: "Modelling Solidification during Fracture Propagation", supervised by Prof. Ian Hewitt.	09/2021 – 09/2022
<b>BSc UZH in Mathematics, Overall Grade: summa cum laude</b> University of Zurich, Switzerland Major (150 ECTS) in Mathematics with a minor (30 ECTS) in Earth System Science.	09/2018 – 08/2021
<b>ETH Math Youth Academy</b> ETH Zurich, Switzerland	09/2016 – 07/2017
<b>Baccalauréat Certificate</b> Kantonsschule Enge in Zurich, Switzerland Specialisation: Economics and Law	08/2013 – 07/2017

## RELEVANT WORK EXPERIENCE

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<b>Doctoral Researcher</b> ETH Zurich, Switzerland <ul style="list-style-type: none"><li>2024: Group organiser at the Seminar for Applied Mathematics (managing teaching duties and hiring student assistants).</li><li>Spring Semester 2024: Course co-organiser for "Numerische Methoden D-ITET &amp; D-PHYS".</li><li>Spring Semester 2023: Course organiser for "Numerische Methoden D-ITET".</li></ul>	10/2022 – present
<b>Teaching Assistant at the Institute of Mathematics</b> University of Zurich, Switzerland <ul style="list-style-type: none"><li>Taught classes, corrected problem sheets, and managed online forums for the lectures "Analysis for Natural Sciences", "Stochastics for Natural Sciences" &amp; "Numerics I".</li></ul>	09/2020 – 12/2021
<b>Web-Application Developer (part-time)</b> Dean's office of the Faculty of Science, University of Zurich <ul style="list-style-type: none"><li>Developed and implemented (full-stack) online tools for the Faculty of Science.</li></ul>	05/2019 – 10/2021
<b>Research Intern in the Field of Natural Language Processing</b> 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). <ul style="list-style-type: none"><li>Studied and independently implemented the transformer network in PyTorch.</li><li>Developed a conda package.</li></ul>	07/2021 – 09/2021
<b>Skiing Instructor</b> Schweizer Skischule Meiringen-Hasliberg, Switzerland	12/2014 – 02/2021

## PUBLICATIONS & CONFERENCES

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### Submitted Preprint:

- Habib Ammari, Jinghao Cao, Erik Orvehed Hiltunen, and Liora Rueff. Scattering from time-modulated subwavelength resonators, 2024; <https://doi.org/10.48550/arXiv.2401.01914>. (to appear in Proceedings of the Royal Society A)

### Published Paper:

- 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

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<b>Member of the Communication Commission of D-MATH</b> ETH Zurich, Switzerland Actively involved in decision-making processes for various projects at the mathematics department of ETH Zurich.	05/2023 – present
<b>Board Member of the Association of the Academic Mid-level Faculty (VMM)</b> ETH Zurich, Switzerland Responsible for communication matters and the development and maintenance of the website.	05/2023 – present
<b>Participant of the Project "Likrat"</b> Swiss Federation of Jewish Communities, Switzerland Involved in a project supported by the Swiss Government to prevent antisemitism and racism.	09/2014 – 09/2022
<b>Student Representative</b> University of Oxford, UK Represented students of my degree programme in the supervisory committee.	09/2021 – 09/2022
<b>Board Member of the Student Association of Mathematics</b> University of Zurich, Switzerland Responsible for projects about career opportunities in mathematics and the development and maintenance of the website.	08/2019 – 09/2021
<b>Youth Leader and Organiser</b> Bne Akiwa Zurich, Switzerland Involved in many organisational tasks and leadership positions. Ran/Organised weekly educational and fun activities and biannual youth camps for kids and teenagers.	08/2014 – 08/2018

## SKILLS

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

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