

# Loreno Heer

Institut für Mathematik, Universität Zürich  
Winterthurerstrasse 190, CH-8057 Zürich, Switzerland

Dr. sc. nat.

loreno-heer.github.io  
loreno.heer@math.uzh.ch  
(Pronouns: he/him/his)

---

## Research interest

Analysis in metric spaces, in particular quasiconformal, quasi-symmetric and quasi-Möbius geometry. (Gromov-)hyperbolic geometry and geometric group theory. Geometric analysis in general and low-dimensional topology. Besides pure mathematics, I am interested in connections between mathematics and computer science, the geometry of space-time, and neuroscience.

---

## Education

- 11/2015 – 01/2021 **PhD in Mathematics**, University of Zurich.  
Thesis: *The Boundary at Infinity of Gromov-Hyperbolic Spaces*, supervised by Prof. Dr. Viktor Schroeder, defended January 27, 2021.
- 09/2012 – 09/2015 **Master of Science ETH in Mathematics**, ETH Zurich.  
Thesis: *Undistortedness of Lipschitz  $n$ -connected closed subsets in quasi-convex metric spaces of finite Assouad-Nagata dimension*, supervised by Prof. Dr. Urs Lang.
- 09/2008 – 09/2012 **Bachelor of Science in Mathematics**  
(with minor Physics and Computer Science), University of Bern.  
Thesis: *Low-dimensional linear representations of mapping class groups and their triviality in certain cases*, supervised by Prof. Dr. Sebastian Baader.
- 09/2000 – 09/2004 **EFZ Computer Science**

---

## Appointments

- 11/2015 – 01/2021 **PhD Student and Teaching Assistant**, University of Zurich.
- 09/2004 – 06/2006 **Java Software-Engineer**, Swisscom IT-Services.
- 02/2003 – 02/2004 **Internship**, Swisscom IT-Services.
- 02/2002 – 07/2002 **Internship**, Swisscom IT-Services.

---

## Publications and Preprints

- [1] Loreno Heer. “Some Invariant Properties of Quasi-Möbius Maps”. In: *Analysis and Geometry in Metric Spaces* 5.1 (28 Aug. 2017), pp. 69–77. DOI: <https://doi.org/10.1515/agms-2017-0004>. URL: <https://www.degruyter.com/view/journals/agms/5/1/article-p69.xml>.

---

## Workshops and Conferences

- *going the MATH way (goMATH 2019)*, Symposium, Zurich, Switzerland (12 to 14 March 2019).
- *Groups, geometries, and spaces in honour of Alessandra Iozzi*, ETH Zurich, Switzerland (22 to 25 January 2019).
- *Young Geometric Group Theory VII*, Les Diablerets, Switzerland (12 to 16 March 2018).
- *23rd Rolf Nevanlinna Colloquium*, ETH Zurich, Switzerland (12 to 16 June 2017).

## Talks given

September 2016   Informal Seminar on Topics of Möbius Geometry  
University of Zürich  
9 October 2019   Geometric Analysis Seminar / Oberseminar Geometrie  
*Möbius maps and the boundary at infinity of metric spaces*  
University of Fribourg

---

## Professional memberships and refereeing

since 2021   American Mathematical Society.  
since 2017   Reviewer for MathSciNet (Mathematical Reviews).  
since 2014   Reviewer for zbMATH.  
since 2014   Swiss Mathematical Society.

---

## Teaching experience

### As an assistant / teaching assistant at University of Zurich

(Responsible for discussion sections, grading, and partly for creating homework assignments, supervising projects.)

FS16	MAT151	Grundbegriffe der Mathematik
FS16	MAT153	Zahlentheorie
HS16	MAT101	Programming
FS17	MAT112	Lineare Algebra II
HS17	MAT101	Programming
FS18	MAT823	Introduction to Computability and Complexity Theory
HS18	MAT101	Programming
FS19	MAT184	Analysis für die Chemie
HS19	MAT101	Programming
FS20	MAT184	Analysis für die Chemie
HS20	MAT101	Programming

### MSc Thesis Co-Advisor

FS18   Andresen, Silke Berit   Low-dimensional Boundaries of  $CAT(0)$  Spaces

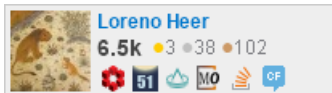
### Additional tasks

FS16   Correction MAT183  
FS17   Correction MAT183  
HS18   Correction MAT182

---

## Other activities and outreach

Active on [mathoverflow.com](https://mathoverflow.com) and [math.stackexchange.com](https://math.stackexchange.com):



## Other skills

Languages   German / Swiss German (native). English (proficient).  
Software    $\text{\LaTeX}$ , C, C++, Python, R, Linux, Bash, emacs, vim, PARI/GP, SageMath, Lean.

## References

*Prof. Dr. Viktor Schroeder*  
Institut für Mathematik  
Universität Zürich  
Winterthurerstrasse 190  
8057 Zürich - Switzerland  
viktor.schroeder@math.uzh.ch

*Prof. Dr. Stefan Wenger*  
Department of Mathematics  
Universität Freiburg  
PER 11 bu. 2.103  
Ch. du Musée 23  
1700 Fribourg - Switzerland  
stefan.wenger@unifr.ch

*Prof. Dr. Urs Lang*  
Department of Mathematics  
ETH Zurich, HG G 27.3  
Rämistrasse 101  
8092 Zurich - Switzerland  
lang@math.ethz.ch

*Prof. David Matthew Freeman, PhD*  
University of Cincinnati Blue Ash  
College  
Muntz Hall 355C  
9555 Plainfield Rd  
Blue Ash, OH 45236 - USA  
freemadd@ucmail.uc.edu