

Lyne Moser | Curriculum Vitae

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Education

- March 2017 – **PhD, EPFL**, Switzerland.
Feb. 2021 PhD in algebraic topology and category theory, under the supervision of Jérôme Scherer and Kathryn Hess.
- Jan. – June 2020 **“Higher Categories and Categorification” program, MSRI**, Bekeley, US.
Under the support of a Doc.Mobility Swiss NSF grant.
- Aug. – Dec. 2016 **Master thesis, Johns Hopkins University**, Baltimore, US.
Basic localizers and derivators, under the supervision of Emily Riehl.
- Sep. 2015 – **MSc in Mathematics, EPFL**, Switzerland.
Feb. 2017 Semester project on singular homology, cellular homology, and group homology, under the supervision of Jérôme Scherer.
- Sep. 2012 – **BSc in Mathematics, EPFL**, Switzerland.
July 2015 Semester project on model categories and simplicial sets, under the supervision of Jérôme Scherer.

Scholarship

- Jan. – June 2020 **Doc.Mobility fellowship, Swiss National Science Foundation**, project number P1ELP2_188039.
Swiss fellowship for PhD students to fund a research stay abroad.

Publications and preprints

Published

- March 13, 2019 **Injective and projective model structures on enriched diagram categories**, In: *Homology, Homotopy, and Applications*, 21(2):279–300, 2019, doi:10.4310/HHA.2019.v21.n2.a15.
I am the only author of this publication.

Preprints

- January 15, 2020 **Stable homotopy hypothesis in the Tamsamani model**, joint with V. Ozornova, S. Paoli, M. Sarazola, and P. Verdugo, accepted for publication in *Proceedings of Women in Topology III* to appear in *Topology and Its Applications*, preprint on arXiv:2001.05577, arxiv.org/abs/2001.05577.
This paper has been written as part of the Women in Topology III conference.
- April 3, 2020 **2-limits and 2-terminal objects are too different**, joint with tslil clingman, submitted, preprint on arXiv:2004.01313, arxiv.org/abs/2004.01313.
This paper has been written during the Spring 2020 program “Higher categories and categorification” at MSRI, Berkeley, US.
- April 29, 2020 **A 2Cat-inspired model structure for double categories**, joint with Maru Sarazola and Paula Verdugo, submitted, preprint on arXiv:2004.14233, arxiv.org/abs/2004.14233.
This paper has been written during the Spring 2020 program “Higher categories and categorification” at MSRI, Berkeley, US.
- July 1, 2020 **A model structure for weakly horizontally invariant double categories**, joint with Maru Sarazola and Paula Verdugo, submitted, preprint on arXiv:2007.00588, arxiv.org/abs/2007.00588.
This paper has been written during the Spring 2020 program “Higher categories and categorification” at MSRI, Berkeley, US.

- July 3, 2020 **A double $(\infty, 1)$ -categorical nerve for double categories**, submitted, preprint on arXiv:2007.01848, arxiv.org/abs/2007.01848.
I am the only author of this paper, which has been written during the Spring 2020 program “Higher categories and categorification” at MSRI, Berkeley, US.
- September 11, 2020 **Bi-representations and bi-initial objects are not so different**, joint with tsllingman, submitted, preprint on arXiv:2009.05545, arxiv.org/abs/2009.05545.
This paper has been written during the Spring 2020 program “Higher categories and categorification” at MSRI, Berkeley, US.

Talks

- Nov. 2017 **Injective and projective model structures on enriched diagram categories**, *Topology Seminar*, EPFL, Switzerland.
- Dec. 2017 **Introduction to model categories**, *Category theory seminar*, Johns Hopkins University, Baltimore, US.
- Apr. 2018 **Injective and projective model structures on enriched diagram categories**, *Oberseminar Topologie*, Universität Osnabrück, Osnabrück, Germany.
- May 2018 **The universal properties of adjunctions, limits and colimits in an ∞ -cosmos**, *MIT Talbot Workshop*, Portland, US.
- Jun. 2018 **Injective and projective model structures on enriched diagram categories**, invited speaker, *Métodos categóricos y homotópicos en álgebra, geometría y topología*, Almería, Spain.
- Jul. 2018 **Injective and projective model structures on enriched diagram categories**, *Young Topologists Meeting*, University of Copenhagen, Copenhagen, Denmark.
- Jun. 2019 **An adventure toward $(\infty, 2)$ -limits**, *Topology Seminar*, EPFL, Switzerland.
- Nov. 2019 **2-limits are double terminal**, invited speaker, *Postgraduate Conference in Category Theory and its Applications*, University of Leicester, Leicester, UK.
- Feb. 2020 **2-fold complete Segal spaces and Θ_2 -spaces**, *Higher Categories and Categorification*, MSRI, Berkeley, US.
- Jul. 2020 **A double $(\infty, 1)$ -categorical nerve for double categories**, *Topology Seminar*, EPFL, Switzerland.

Organization of conferences

- July, 2019 **Young Topologists Meeting 2019**, EPFL, Switzerland.
Conference for graduate students, PhDs, and junior researchers in topology.

Teaching activities

Courses

- Spring 2017 **Topology**, Kathryn Hess, EPFL, Switzerland.
Main teaching assistant organizing the exercise sessions.
- Fall 2017 **Linear Algebra**, Jérôme Scherer, EPFL, Switzerland.
Main teaching assistant organizing the exercise sessions for 300 students and 10 teaching assistants.
- Spring 2018 **Topology**, Kathryn Hess, EPFL, Switzerland.
Main teaching assistant organizing the exercise sessions.
- Fall 2018 **Linear Algebra**, Jérôme Scherer, EPFL, Switzerland.
Main teaching assistant organizing the exercise sessions for 300 students and 10 teaching assistants.
- Spring 2019 **Topology**, Kathryn Hess, EPFL, Switzerland.
Main teaching assistant organizing the exercise sessions.

- Fall 2019 **Group Theory**, Kathryn Hess, *EPFL*, Switzerland.
Main teaching assistant organizing the exercise sessions.
- Fall 2020 **Group Theory**, Kathryn Hess, *EPFL*, Switzerland.
Main teaching assistant organizing the exercise sessions.
- 2017 – 2019 **Occasional teaching for the Euler course**, *EPFL*, Switzerland.
Teaching theory and exercise sessions for an accelerated mathematics program for gifted youth.
- [Others](#)
- Easter 2017, **Séminaire Burlet**, Ravoire, Switzerland.
2018, and Teaching assistant for a revision week for EPFL BSc students in mathematics.
2019

Supervision of students

- Spring 2018 **Topological K-Theory**, Aurel Pichollet–Mugnier, *EPFL*, Switzerland.
- Spring 2019 **A model structure on the category of simplicial sets**, Dolores Dupont, *EPFL*, Switzerland.
- Fall 2020 **Grothendieck topoi**, Cloé Pointet, *EPFL*, Switzerland.

Personal skills

- Languages French (mother tongue), English (fluent), German (fluent).
- Informatics LaTeX, R, Word, Excel.