
Curriculum vitæ

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Fosco Loregian
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RESEARCH INTERESTS

Category theory and everything about it.

CURRENT POSITION

1 | **Postdoctoral fellow**
Tallinna Tehnikaülikooli Küberneetika Instituut | Tallinn

Jan 2020 | now 🇪🇪

PAST POSITIONS

1 | **Postdoctoral fellow**
Centro de Matemática da Universidade de Coimbra | Coimbra

Jul 2019 | Dec 2019 🇵🇹

2 | **Postdoctoral fellow**
Max-Planck-Institut für Mathematik | Bonn

Sep 2018 | Feb 2019 🇩🇪

3 | **Postdoctoral fellow**
Masarykova univerzita | Brno

Mar 2017 | Apr 2018 🇨🇪

4 | **Postdoctoral fellow and Assistant Professor**
University of Western Ontario | London

Sep 2016 | Nov 2016 🇨🇦

EDUCATION

2008 | 2012

1 | **Ph.D. in Mathematics**
SISSA | Trieste
thesis: t -structures on stable ∞ -categories : 2005.14295

Oct 2012 | Jun 2016 🇮🇹

2 | **M.Sc. in Mathematics**
Università degli studi di Padova
thesis: Orlov reconstruction theorem

Oct 2010 | Jul 2012 🇮🇹

3 | **B.Sc. in Mathematics**
Università degli studi di Padova
thesis: Monads and Beck's theorem

Jan 2008 | Jun 2010 🇮🇹

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PUBLICATIONS

- 1 | **Bicategories of automata, automata in bicategories** w/G. Boccali, A. Laretto, S. Luneia |
2303.03865 | accepted for ACT2023
- 2 | **Completeness for categories of generalized automata** w/G. Boccali, A. Laretto, S. Luneia |
2303.03867 | accepted for CALCO2023
- 3 | **Profunctor optics, a categorical update** w/B. Clarke, et al. |
2001.07488 | to appear in *Compositionality*
- 4 | **Escrows are optics** w/F. Genovese, D. Palombi |
2105.10028 | to appear on JFT
- 5 | **Differential 2-rigs** w/T. Trimble |
2103.00938 | Accepted for ACT2022
- 6 | **Fibrational linguistics II: language acquisition** w/F. Genovese, C. Puca |
2201.01136 | Accepted for ACT2022
- 7 | **Fibrational linguistics I: first concepts** w/F. Genovese, C. Puca |
2201.01136 | Accepted for ACT2022
- 8 | **Accessibility and presentability in 2-categories** w/I. Di Liberti |
1804.08710v4 | Journal of Pure and Applied Algebra | doi:10.1016/j.jpaa.2022.107155
- 9 | **A Categorical Semantics for Bounded Petri Nets** w/F. Genovese, D. Palombi |
2101.09100 | Applied Category Theory 2021
- 10 | **Coends of higher arity** w/T. de Oliveira Santos |
2011.13881 | Applied Categorical Structures | doi:10.1007/s10485-021-09653-x
- 11 | **A Categorical Semantics for Hierarchical Petri Nets** w/F. Genovese, J. Herold, D. Palombi |
2102.00096 | Proc. of GCM, 2021 Springer | doi:10.4204/EPTCS.350.4
- 12 | **Nets with Mana: A Framework for Chemical Reaction Modelling** w/F. Genovese, D. Palombi |
2101.06234 | Graph Transformation, Proc. of ICGT, 2021 Springer. | doi:10.1007/978-3-030-78946-6_10
- 13 | **Functorial semantics for partial theories** w/I. Di Liberti, et al. |
2011.06644 | Proc. ACM Program. Lang. 5, POPL, 2021. | doi:10.1145/3434338
- 14 | **Triangulated factorization systems and t-structures** w/S. Virili |
1705.08565v3 | Journal of Algebra | doi:10.1016/j.jalgebra.2019.12.021
- 15 | **Categorical notions of fibration** w/E. Riehl |
1806.06129 | Expos. Math. (2019) | doi:10.1016/j.exmath.2019.02.004
- 16 | **Hearts and towers in stable infinity-categories** w/D. Fiorenza, G. Marchetti |
1501.04658 | Journal of Homotopy and Related Structures 2019 | doi:10.1007/s40062-019-00237-0
- 17 | **A standard theorem on adjunctions in two variables**
1902.06074 | Preprints of the MPIM, 2018 (67)
- 18 | **A Fubini rule for ∞ -coends**
1902.06086 | Preprints of the MPIM, 2018 (68)
- 19 | **Homotopical Algebra is not concrete** w/I. Di Liberti |
1704.00303 | Journal of Homotopy and Related Structures (2017): 1-15 | doi:10.1007/s40062-018-0197-3
- 20 | **Sober Ontic Structural Realism and Yoneda lemma**
abstract at the *Triennial conference of the SILFS*, Bologna
- 21 | **Coend calculus**
1501.02503 | LMS Lecture Note Series 468. Cambridge University Press. 2021. ISBN 9781108778657.

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- 22 | **t-structures are normal torsion theories** w/D. Fiorenza |
1408.7003 | Applied Categorical Structures 24.2 (2016): 181-208 | doi:10.1007/s10485-015-9393-z

PREPRINTS

- 1 | **Rosen's no-go theorem for regular categories**
2012.11648
- 2 | **Functorial Erkennen** w/D. Dentamaro |
<http://philsci-archive.pitt.edu/18519/>
- 3 | **Categorical Ontology I** w/D. Dentamaro |
<http://philsci-archive.pitt.edu/17136/>
- 4 | **On the unicity of formal category theories** w/I. Di Liberti |
1901.01594v1
- 5 | **Localization theory for derivators**
1802.08193v1
- 6 | **Recollements in stable ∞ -categories** w/D. Fiorenza |
1507.03913v2

TALKS

- 1 | **A few remarks on the fibration of algebras** Dec 2022
video | ItaCa 2022, Pisa
- 2 | **Differential 2-rigs** Jul 2022
video | Applied Category Theory 2022, Glasgow
- 3 | **Fibrational linguistics** Jul 2022
video | Applied Category Theory 2022, Glasgow
- 4 | **Towards a formal category theory of derivators** Nov 2021
video | Invited speaker | New Directions in Group Theory & Triangulated Categories
- 5 | **Differential 2-rigs** Sep 2021
Speaker | CT20→21 - Genova
- 6 | **Functorial semantics of partial theories** Apr 2021
Speaker | Seminari di logica Torino-Udine
- 7 | **On the unicity of the formal theory of categories** Dec 2018
Lectures on 1901.01594 | ULB - Bruxelles
- 8 | **Accessibility and Presentability in 2-categories** Nov 2018
Two-lecture series on 1804.08710 | Università degli studi di Torino
- 9 | **Homotopical algebra is not concrete** Sep 2017
Contributed talk | *British Topology Meeting* | Leicester
- 10 | **The formal category theory of derivators** Sep 2017
Speaker | *Some trends in Algebra* | Prague

TEACHING & ORGANIZATIONAL ACTIVITIES, AWARDS

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- 1 | 🏆 Award for *Researcher of the Year* 2021 2021

 - 2 | 🎓 ITI9200 - Introduction to Category Theory Jan | May 2020–23
A course on basic category theory; at the [course webpage](#) you find a diary of the lectures and study material.

 - 3 | 🏆 Organiser of ItaCa Fest 2020 | –
An online webinar aimed to gather the community of [ItaCa](#).

 - 4 | 🏆 appointee for Adjoint school 2019 Mar 2019 | Jun 2019
A webinar and online applied Category Theory reading course. The project name is *Traversal optics and profunctors*. Led to the development of [arXiv:2001.07488](#).

 - 5 | 🏆 PSSL 103 - Brno April 2018
I have been one of the organizers of 103rd Peripathetic Seminar on Sheaves and Logic.

 - 6 | 🎓 Elements of Finite Mathematics Autumn 2016
Techniques of counting, probability, discrete and continuous random variables.

 - 7 | 🏆 appointee for Kan Extension Seminar I Jan 2014 | Jul 2014
A webinar and online Category Theory reading course.

SUPERVISION OF STUDENTS

- 1 | 🎓 supervisor and coadvisor for PhD in Computer Science *student: A. Laretto*
After a long and fruitful collaboration, A. Laretto applied for a Ph.D. in Tallinn University of Technology. I couldn't be happier to have him as a student.

- 2 | 🎓 mentor for the SIGPLAN-M *mentee: A. Laretto*
The SIGPLAN Long-Term Mentoring Committee (SIGPLAN-M) organizes an international long-term mentoring program for programming languages researchers.

- 3 | 🎓 supervisor and coadvisor M.Sc. in Mathematics *student: M. Roselli*
Categorical linguistics | (tentative)

- 4 | 🎓 supervisor for M.Sc. internship at TalTech *student: T. Massacrier*
From combinatorial species to general differential 2-rigs

- 5 | 🎓 supervisor and coadvisor M.Sc. in Mathematics *student: G. Sorgente*
Formal theory of promonads | (tentative)

- 6 | 🎓 supervisor and coadvisor B.Sc. in Mathematics *student: G. Ronchi*
Adjoint Functors | [amslaurea.unibo.it](#)

OTHER ACTIVITIES

- 1 | Sparse skills
I like the art of crafting books and drawing maps; this is not unrelated to my love for Mathematics. I am a pretty decent TeXnic (I maintain this CV through a [github repo](#) whence you can steal the code, if you ask politely). I know bits of Haskell, Python, and Wolfram, but in the end I don't care *that* much about programming if I can't do category theory in it. I became a relatively frequent contributor of [agda-categories](#). Agda is...well, pain. I like languages, natural and artificial (mi šatus verki vortaron al matematiko, kun terminoj el teoria kategorioj; mina õpin eesti keelt, aeglaselt; jeg liker Norsk, men jeg liker Maria Franz mer); again, this is not unrelated to my love for Mathematics.

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2 | *Directeur des systèmes d'information* @ 'Les Presses Insoumises'.

I have participated to the craft of the cover of the first edition of the *Grimoire of Commutative Algebra* by Lorenzo Ramero.

3 | *Freelance consultant* @ *PlantingSpace*

I conduct research oriented towards categorical probability theory and implementations thereof.

4 | *Reviewer for*

zbMath, AMS Math. Rev.

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