Curriculum vitæ

last updated **April 30, 2023**

fosco.loregian@gmail.com
Akadeemia tee 21/B, 12618
Tallinn, Estonia 🇪🇪

Fosco Loregian
github.com/tetrapharmakon
`fosco.loregian`

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 🇮🇹

Fosco Loregian

PUBLICATIONS

1 | **Completeness for categories of generalized automata**   w/G. Boccali, A. Laretto, S. Luneia |
2303.03867

2 | **Profunctor optics, a categorical update**   w/B. Clarke, et al. |
2001.07488 | to appear in Compositionality

3 | **Escrows are optics**   w/F. Genovese, D. Palombi |
2105.10028 | to appear on JFT

4 | **Differential 2-rigs**   w/T. Trimble |
2103.00938 | Accepted for ACT2022

5 | **Fibrational lnguistics II: language acquisition**   w/F. Genovese, C. Puca |
2201.01136 | Accepted for ACT2022

6 | **Fibrational lnguistics I: first concepts**   w/F. Genovese, C. Puca |
2201.01136 | Accepted for ACT2022

7 | **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

8 | **A Categorical Semantics for Bounded Petri Nets**   w/F. Genovese, D. Palombi |
2101.09100 | Applied Category Theory 2021

9 | **Coends of higher arity**   w/T. de Oliveira Santos |
2011.13881 | Applied Categorical Structures | doi:10.1007/s10485-021-09653-x

10 | **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

11 | **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

12 | **Functorial semantics for partial theories**   w/I. Di Liberti, et al. |
2011.06644 | Proc. ACM Program. Lang. 5, POPL, 2021. | doi:10.1145/3434338

13 | **Triangulated factorization systems and *t*-structures**   w/S. Virili |
1705.08565v3 | *Journal of Algebra* | doi:10.1016/j.jalgebra.2019.12.021

14 | **Categorical notions of fibration**   w/E. Riehl |
1806.06129 | *Expos. Math.* (2019) | doi:10.1016/j.exmath.2019.02.004

15 | **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

16 | **A standard theorem on adjunctions in two variables**
1902.06074 | Preprints of the MPIM, 2018 (67)

17 | **A Fubini rule for ∞-coends**
1902.06086 | Preprints of the MPIM, 2018 (68)

18 | **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

19 | **Sober Ontic Structural Realism and Yoneda lemma**
abstract at the *Triennial conference of the SILFS*, Bologna

20 | **Coend calculus**
1501.02503 | LMS Lecture Note Series 468. Cambridge University Press. 2021. ISBN 9781108778657.

21 | **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 | **Bicategories of automata, automata in bicategories** w/G. Boccali, A. Laretto, S. Luneia |
2303.03865

2 | **Rosen's no-go theorem for regular categories**
2012.11648

3 | **Functorial Erkennen** w/D. Dentamaro |
http://philsci-archive.pitt.edu/18519/

4 | **Categorical Ontology I** w/D. Dentamaro |
http://philsci-archive.pitt.edu/17136/

5 | **On the unicity of formal category theories** w/I. Di Liberti |
1901.01594v1

6 | **Localization theory for derivators**
1802.08193v1

7 | **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

1 | 🎖 Award for *Researcher of the Year* 2021   2021

2 | 🎓 ITI9200 - Introduction to Category Theory   Jan 2022 | May 2022
   A course on basic category theory; at the course webpage you find a diary of the lectures and study material.

3 | 🎓 ITI9200 - Introduction to Category Theory   Jan 2021 | May 2021

4 | 🎓 ITI9200 - Introduction to Category Theory   Jan 2020 | May 2020

5 | 🎖 Organiser of ItaCa Fest   2020|2021|2022
   An online webinar aimed to gather the community of ItaCa.

6 | 🎖 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.

7 | 🎖 PSSL 103 - Brno   MU Brno - CZ
   I have been one of the organizers of 103rd Peripathetic Seminar on Sheaves and Logic.

8 | 🎓 Elements of Finite Mathematics   UWO London - CA
   Techniques of counting, probability, discrete and continuous random variables.

9 | 🎖 appointee for Kan Extension Seminar I   Jan 2014 | Jul 2014
   A webinar and online Category Theory reading course.

Supervision of students

1 | 🎓 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.

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

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

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

5 | 🎓 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 ŝatus 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.

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.