

# Curriculum vitæ

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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  $\infty$ -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 🇮🇹

## PUBLICATIONS

- 1 | **A Categorical Semantics for Bounded Petri Nets**  
2101.09100 | Applied Category Theory 2021

w/ F. Genovese, D. Palombi |

- 2 | [Coends of higher arity](#) w/T. de Oliveira Santos |  
2011.13881 | *Applied Categorical Structures* | doi:10.1007/s10485-021-09653-x
- 3 | [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
- 4 | [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
- 5 | [Functorial semantics for partial theories](#) w/I. Di Liberti, et al. |  
2011.06644 | *Proc. ACM Program. Lang.* 5, POPL, 2021. | doi:10.1145/3434338
- 6 | [Triangulated factorization systems and t-structures](#) w/S. Virili |  
1705.08565v3 | *Journal of Algebra* | doi:10.1016/j.jalgebra.2019.12.021
- 7 | [Categorical notions of fibration](#) w/E. Riehl |  
1806.06129 | *Expos. Math.* (2019) | doi:10.1016/j.exmath.2019.02.004
- 8 | [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
- 9 | [A standard theorem on adjunctions in two variables](#)  
1902.06074 | *Preprints of the MPIM*, 2018 (67)
- 10 | [A Fubini rule for  \$\infty\$ -coends](#)  
1902.06086 | *Preprints of the MPIM*, 2018 (68)
- 11 | [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
- 12 | [Sober Ontic Structural Realism and Yoneda lemma](#)  
abstract at the *Triennial conference of the SILFS*, Bologna
- 13 | [Coend calculus](#)  
1501.02503 | *LMS Lecture Note Series* 468. Cambridge University Press. 2021. ISBN 9781108778657.
- 14 | [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 | [Escrows are optics](#) w/F. Genovese, D. Palombi |  
2105.10028
- 2 | [Differential 2-rigs](#) w/F. Genovese |  
2103.00938
- 3 | [Rosen's no-go theorem for regular categories](#)  
2012.11648
- 4 | [Functorial Erkennen](#) w/D. Dentamaro |  
<http://philsci-archive.pitt.edu/18519/>
- 5 | [Categorical Ontology I](#) w/D. Dentamaro |  
<http://philsci-archive.pitt.edu/17136/>
- 6 | [Profunctor optics, a categorical update](#) w/B. Clarke, et al. |  
2001.07488
- 7 | [On the unicity of formal category theories](#) w/I. Di Liberti |  
1901.01594v1

- 8 | [Accessibility and presentability in 2-categories](#) w/I. Di Liberti |  
1804.08710v4
- 9 | [Localization theory for derivators](#)  
1802.08193v1
- 10 | [Recollements in stable  \$\infty\$ -categories](#) w/D. Fiorenza |  
1507.03913v2

## TALKS

- 1 | [Towards a formal category theory of derivators](#) Nov 2021  
[video](#) | Invited speaker | New Directions in Group Theory & Triangulated Categories
- 2 | [Differential 2-rigs](#) Sep 2021  
Invited speaker | CT20→21 - Genova
- 3 | [Functorial semantics of partial theories](#) Apr 2021  
Invited Speaker | Seminari di logica Torino-Udine
- 4 | [Coends of higher arity](#) Dec 2020  
Organiser and speaker | ItaCa - Italian Category theorists conference
- 5 | [The art of  \$\int\$](#)  Dec 2019  
Invited speaker | ItaCa - Italian Category theorists conference
- 6 | [Axiomatic cohesion of toposes](#) Dec 2019  
Invited speaker | Università "La Sapienza" - Rome
- 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  
Talk 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  
Invited speaker | *Some trends in Algebra* | Prague
- 11 | [Model categories](#) May 2017  
Invited speaker | *A categorical day in Turin* | Torino
- 12 | [t-derivators](#) Feb 2017  
Invited speaker | *Young researchers in homotopy theory*, Bonn

## TEACHING & ORGANIZATIONAL ACTIVITIES

- 1 |  [ITI9200 - Introduction to Category Theory](#) Jan 2021 | May 2021  
[Introduction to Category Theory and its Applications](#) (*Sissejuhatus kategooriateooriasse ja selle rakendustesse*). Part of the MSc in Software Engineering at TalTech. Here you find the [course webpage](#) on talcats.io.
- 2 |  [ITI9200 - Introduction to Category Theory](#) Jan 2020 | May 2020  
[Introduction to Category Theory and its Applications](#) (*Sissejuhatus kategooriateooriasse ja selle rakendustesse*). Part of the MSc in Software Engineering at TalTech.

- 3 | 📅 **Organiser of ItaCa Fest** June 2020 | now  
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** MU Brno - CZ  
I have been one of the organizers of 103rd Peripathetic Seminar on Sheaves and Logic.
- 6 | 📅 **Elements of Finite Mathematics** UWO London - CA  
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 | 📅 **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*  
*Differential Polynomial endofunctors* | (tentative)
- 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 as a [github repo](#)). I know bits of Haskell, Python, and Wolfram. I like artificial languages (mi ŝatus verki vortaron al matematiko, kun terminoj el teoria kategorioj); again, this is not unrelated to my love for Mathematics.
- 2 | **Directeur des systèmes d'information for '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 | **Consultant for PlantingSpace**  
I conduct research oriented towards categorical probability theory.
- 4 | **Reviewer for**  
zbMath, AMS Math. Rev.

*Federico Lorenzin*