Curriculum vitæ

last updated **January 23, 2020**

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RESEARCH INTERESTS

Category theory and everything about it.

– Stable ∞-categories

– Homotopical algebra

– Groth(endieck) derivators

– 2-categories and formal category theory

– locally presentable and accessible categories

– type theory and functional programming.

PRESENT POSITION

| 1 | **Postdoctoral fellow** | Jan 2020 | — |
| IoC | Tallinn EE |

PAST POSITIONS

| 1 | **Postdoctoral fellow** | Jul 2019 | Dec 2019 |
| CMUC | Coimbra PT |

| 2 | **Postdoctoral fellow** | Sep 2018 | Feb 2019 |
| Max Planck Institute for Mathematics | Bonn D |

| 3 | **Postdoctoral fellow** | Mar 2017 | Apr 2018 |
| Masaryk University | Brno CZ |

| 4 | **Postdoctoral fellow and Assistant Professor** | Sep 2016 | Nov 2016 |
| University of Western Ontario | London CA |

EDUCATION   2008 | 2012

| 1 | **Ph.D. in Mathematics** | Oct 2012 | Jun 2016 |
| SISSA | Trieste |
| **thesis**: *t-structures on stable ∞-categories* |

| 2 | **M.Sc. in Mathematics** | Oct 2010 | Jul 2012 |
| Università degli studi di Padova |
| **thesis**: *Orlov reconstruction theorem* |

| 3 | **B.Sc. in Mathematics** | Jan 2008 | Jun 2010 |
| Università degli studi di Padova |
| **thesis**: *Monads and Beck's theorem* |

Publications

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

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

3 | **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

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

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

6 | **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

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

8 | **Coend calculus**
based on 1501.02503v4 | book to appear for Cambridge University Press (2020?)

9 | **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 | **Profunctor optics, a categorical update** w/B. Clarke, D. Elkins, J. Gibbons, B. Milewski, E. Pillmore and M. Román |
2001.07488

2 | **On the unicity of formal category theories** w/I. Di Liberti |
1901.01594v1 | Submitted to TAC, January 2019

3 | **Accessibility and presentability in 2-categories** w/I. Di Liberti |
1804.08710v4 | Submitted to JPAA, January 2019

4 | **Localization theory for derivators**
1802.08193v1 | Submitted to TAC, March 2018

5 | **Recollements in stable ∞-categories** w/D. Fiorenza |
1507.03913v2

Talks

1 | **The art of $\int$** Dec 2019
Invited speaker | ItaCa - Italian Category theorists conference

2 | **Axiomatic cohesion of toposes** Dec 2019
Invited speaker | Università "La Sapienza" - Rome

3 | **The formal category theory of derivators** Apr 2019
Invited speaker | Workshop on Derivators - Regensburg

4 | **On the unicity of the formal theory of categories** Dec 2018
Talk on 1901.01594 | ULB - Bruxelles

5 | **Accessibility and Presentability in 2-categories** Nov 2018
Talk on 1804.08710 | Università degli studi di Torino

6	**Homotopical algebra is not concrete**	Sep 2017
	Contributed talk	*British Topology Meeting*	Leicester	

7	**The formal category theory of derivators**	Sep 2017
	Invited speaker	*Some trends in Algebra*	Prague	

8	**Sober Ontic Structural Realism**	Jun 2017
	Invited speaker	*SILFS*	Bologna	

9	**Model categories**	May 2017
	Invited speaker	*A categorical day in Turin*	Torino	

10	**t-derivators**	Feb 2017
	Invited speaker	*Young researchers in homotopy theory*, Bonn	

11	**Coend calculus**	May 2016
	Lectures on 1501.02503	Leeds	

Teaching & Organizational activities

1 | appointee for Adjoint school 2019 Mar 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.

2 | 2-categories Padova - IT

A short course on 2-dimensional category theory. Tentative program: monoidal and enriched categories, the calculus of coends and Kan extensions, 2-categories, the bicategory of profunctors, the 2-category of derivators, 2-dimensional limits, the formal theory of monads, formal category theory.

3 | PSSL 103 - Brno MU Brno - CZ

I have been one of the organizers of 103rd Peripathetic Seminar on Sheaves and Logic.

4 | Formal category theory MU Brno - CZ

A series of lectures having the scope to breach in Riehl-Verity's theory of ∞-cosmoi.

5 | Elements of Finite Mathematics UWO London - CA

Techniques of counting, probability, discrete and continuous random variables.

6 | Homotopical Algebra MU Brno - CZ

A bottom-up introduction to the language of Homotopical Algebra

7 | appointee for Kan Extension Seminar I Jan 2014 | Jul 2014

A webinar and online Category Theory reading course.

8 | supervisor and coadvisor B.Sc. in Mathematics *student: Giovanni 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 here). 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 | Reviewer for

zbMath, AMS Math. Rev.