

Enrico Ghiorzi

Employment

- 04/2023–present **Postdoctoral researcher**, *DIBRIS, Università degli Studi di Genova*, Genoa (Italy).
- 10/2021–03/2023 **Postdoctoral researcher**, *Humanoid Sensing and Perception, Center for Robotics and Intelligent Systems, Istituto Italiano di Tecnologia*, Genoa (Italy).
- 10/2019–06/2021 **Postdoctoral researcher**, *Appalachian State University*, Boone (North Carolina).
Project topic: categorical semantics of advanced data types (under the direction of Prof. Patricia Johann).

Affiliation

- 04/2023–present **Affiliated Researcher**, *Humanoid Sensing and Perception, Center for Robotics and Intelligent Systems, Istituto Italiano di Tecnologia*, Genoa (Italy).

Education

- 10/2013–11/2019 **PhD in Mathematics**, *University of Cambridge*, Cambridge (United Kingdom), defended in September 2019.
Thesis title: *Internal enriched categories* (supervised by Prof. Martin Hyland) <https://doi.org/10.17863/CAM.45286>.
- 10/2011–09/2013 **MSc in Mathematics**, *Università degli Studi di Genova*, Genoa (Italy), *110/110 cum laude*.
Thesis title: *Sobriety and Equilogical Spaces* (supervised by Prof. Giuseppe Rosolini).
- 09/2008–09/2011 **BSc in Mathematics**, *Università degli Studi di Genova*, Genoa (Italy), *110/110 cum laude*.
Thesis title: *Gödel's Proof of Completeness Theorem* (supervised by Prof. Giuseppe Rosolini).

Publications

- 2023 **Learning Linear Temporal Properties for Autonomous Robotic Systems**, w. Colledanchise, Piquet, Bernagozzi, Tacchella and Natale, IEEE Robotics and Automation Letters, <https://doi.org/10.1109/LRA.2023.3263368>.
- 2023 **Internalization and enrichment via spans and matrices in a tricategory**, w. Femić, Journal of Algebraic Combinatorics, <https://doi.org/10.1007/s10801-022-01188-1>.
- 2022 **Internal Enriched Categories**, Applied Categorical Structures, <https://doi.org/10.1007/s10485-022-09678-w>.
- 2022 **(Deep) Induction Rules for GADTs**, w. Johann, CPP 2022: Proceedings of the 11th ACM SIGPLAN International Conference on Certified Programs and Proofs, <https://doi.org/10.1145/3497775.3503680>.
- 2021 **Parametricity for Nested Types and GADTs**, w. Johann, Logical Methods in Computer Science, [https://doi.org/10.46298/lmcs-17\(4:23\)2021](https://doi.org/10.46298/lmcs-17(4:23)2021).
- 2021 **Parametricity for Primitive Nested Types**, w. Jeffries and Johann, Foundations of Software Science and Computation Structures 2021 (FoSSaCS'21), https://doi.org/10.1007/978-3-030-71995-1_17.
- 2021 **GADTs, Functoriality, Parametricity: Pick Two**, w. Jeffries and Johann, Proceedings, Logical and Semantic Frameworks with Applications (LSFA'21). <https://doi.org/10.4204/EPTCS.357.6>, ISSN: 2075-2180
- preprint **Completeness for internal categories**, arXiv version <https://arxiv.org/abs/2004.08741>.

Conferences and Seminars

- 2022 **(Deep) induction rules for GADTs**, *Certified Programs and Proofs (CPP 2022)*.
- 2021 **GADTs, Functoriality, Parametricity: Pick Two**, *16th Logical and Semantic Frameworks with Applications (LSFA 2021)*.
- 2020 **Internal enriched categories**, *New York City Category Theory Seminar*.
- 2020 **Complete internal categories**, *ItaCa Fest 2020*.
- 2019 **Enriched internal categories**, *A Workshop for John Power, Department of Computer Science, University of Bath*.
- 2018 **Categorie interne arricchite**, *Teoria e Applicazioni delle Categorie, DIMA-DIBRIS, Università degli Studi di Genova*.

- 2017 **Enriched internal categories**, 101st PSSL, University of Leeds.
- 2014 **Type theory and regular completions**, Category Theory Seminar, University of Cambridge.

Teaching Experience

- 2022 Co-advisor of Gianluca Piquet's master's thesis, title: "Patching High Level Robot Requirements from Execution Traces."
- 2022 Attended workshop on effective teaching in higher education, with particular emphasis on teaching to a multi-cultural classroom.
- 2022 Lecturer (together with other three lecturers) for the category theory online course organized by ItaCa <https://progetto-itaca.github.io/pages/course.html>.
- 2014 Graduate teaching assistant for "Logic and Set Theory" (3rd year undergraduate course) for the Department of Pure Mathematics and Mathematical Statistics, University of Cambridge.

Academic Service

- 2023 **Organiser** *Member of the organising committee for the commemorative event "Genoese recollections on Lawvere's work and ideas"*
- 2021 **Organiser** *Member of the organising committee for the 2nd ItaCa Workshop*
<https://genoa-logic-group.github.io/itaca-workshop-2021/>

Funding, Scholarships and Grants

- 2013-2018 **EPSRC** *(Engineering and Physical Sciences Research Council). Covering University and College fees.*
- 2013-2018 **Cambridge Trust** *Covering living expenses.*

Qualifications

- 2021 Maître de conférences (N° de qualification 21225358290).

Awards

- 2014 **John Rose Prize** *Awarded by King's College, Cambridge, for "the best explanation of a scientific principle of general interest" with the essay Turing Machines and Computability (on a par with another student).*

2010 **iris Prize** *Awarded by Università degli Studi di Genova for being the best first-year undergraduate student in Mathematical, Physical and Natural Sciences (on a par with two other students).*



Languages

Italian Native speaker
English Near-native proficiency (C2 as self-assessed using CEFRL)