

Azzurra Ciliberti

Executive summary

I am a PHD student in Algebra at University of Rome La Sapienza. In particular, my research topics are cluster algebras and quiver representations.

Education

La Sapienza Università di Roma Ph.D. in Mathematics	Rome, Italy November 2021–Current
<ul style="list-style-type: none">– Project thesis title: “Categorification of skew-symmetrizable cluster algebras through symmetric quivers”– Thesis supervisor: Prof. Giovanni Cerulli Irelli	
Alma Mater Studiorum Università di Bologna Master’s Degree in Mathematics, Grade: 110/110 cum laude	Bologna, Italy September 2019–June 2021
<ul style="list-style-type: none">– Thesis title: “Chromatic symmetric homology”– Thesis supervisor: Prof. Luca Moci	
Alma Mater Studiorum Università di Bologna Bachelor’s Degree in Mathematics, Grade: 109/110	Bologna, Italy September 2017–September 2019
<ul style="list-style-type: none">– Thesis title: “Gruppi di Galois di ordine dodici”– Thesis supervisor: Prof.ssa Mirella Manaresi	
Alma Mater Studiorum Università di Bologna Bachelor’s Degree in Computer Engineering, Grade: 110/110 cum laude	Bologna, Italy September 2014–July 2017
<ul style="list-style-type: none">– Thesis title: “Progetto e implementazione del protocollo HSLTP”– Thesis supervisor: Prof. Carlo Caini	
Liceo Classico Aldo Moro Classical High School Diploma, Grade: 100/100	Manfredonia, Italy September 2009–June 2014

Experience

Target Reply Consultant	Milan, Italy March 2021–June 2021
<ul style="list-style-type: none">– Main activities: Data analysis using ETL software (SQL, SAS)	
Alma Mater Studiorum Università di Bologna Tutor for blended teaching support	Bologna, Italy September 2020–December 2020

- Description of the project: Changes to the LTP code contained in ION, i.e. the free software implementation of the DTN architecture, in order to create a new convergence layer

Research visits

- University of Connecticut, USA (one month) March–April 2023
Supervisor: prof. Ralf Schiffler

Publications and Preprints

- [1] Nicola Alessi et al. “HSLTP—An LTP Variant for High-Speed Links and Memory Constrained Nodes”. In: *IEEE Transactions on Aerospace and Electronic Systems* 56.4 (2020), pp. 2922–2933. doi: 10.1109/TAES.2019.2958190.
- [2] Azzurra Ciliberti. “A deletion–contraction long exact sequence for chromatic symmetric homology”. In: *European Journal of Combinatorics* 115 (2024), p. 103788. issn: 0195-6698. doi: <https://doi.org/10.1016/j.ejc.2023.103788>. url: <https://www.sciencedirect.com/science/article/pii/S0195669823001051>.
- [3] Azzurra Ciliberti and Luca Moci. “On Chromatic Symmetric Homology and Planarity of Graphs”. In: *Electron. J. Combin.* 30.1 (2023), Paper No. 1.15---. doi: 10.37236/11397. url: <https://doi.org/10.37236/11397>.

PhD courses attended

- “Polynomial identities” (Prof. Antonio Giambruno) November 2021
- “Istituzioni di Algebra Superiore” (Prof. Guido Pezzini) September 2021–January 2022
- “Algebra Superiore” (Prof. Paolo Papi) September 2021–January 2022
- “Invariant Theory” (Prof. Guido Pezzini) March 2022–May 2022
- “Quiver Representations” (Prof. Giovanni Cerulli Irelli) April 2022–May 2022

Teaching

- Teaching Assistant for “Geometria 3” course (Module 1), University of Bologna, 100h. 2020–2021
- “Geometry” for Sustainable Building Engineering, La Sapienza (Campus of Rieti), 60h. 2021–2022
- “Geometria” for Chemical Engineering (co-teaching), La Sapienza, 48h. 2022–2023

Talks and poster presentations

Invited talks

- “On chromatic symmetric homology and planarity of graphs” at the Winter School “Geometry, Algebra and Combinatorics of Moduli Spaces and Configurations V” (Dobbiaco, Italy) 2023

Seminar talks

- “Chromatic symmetric homology” at MATH Talks, La Sapienza (Rome) 2022
- “Categorification of skew-symmetrizable cluster algebras through symmetric quivers” at the Algebra and Representation Theory Seminar of the University Tor Vergata (Rome) 2022
- “An introduction to cluster algebras” at MATH Talks, La Sapienza (Rome) 2023

Poster presentations

- “Chromatic symmetric homology” at Advances in Representation Theory of Algebras VIII, Toruń (Poland) 2022

Conferences and schools attended

- Ischia Group Theory 2022, Ischia (Italy) 20 –24 June 2022
- Advances in Representation Theory of Algebras VIII - 2022, Toruń (Poland) 19 –23 September 2022
- Geometry, Algebra and Combinatorics of Moduli Spaces and Configurations V, Dobbiaco 20 –24 February 2023
- Quiver Representations, Quiver Varieties and Combinatorics, Bologna 22 –26 May 2023

Computer skills

- Software development: C, C#, Java;
- Mathematical software: Sage, Singular, MATLAB, CoCoA;
- Data analysis: SAS Data Management, SQL, Excel;
- Document preparation, especially for scientific works: LaTeX, Word.

Languages

- Language: Italian mother tongue
- Language: English Upper Intermediate (B2)
– IELTS Academic: Grade: 6.5 (July 2019)

Scholarships and Awards

- Study award in favor of deserving students from the University of Bologna (1500€) 2021
- Personal research fund from La Sapienza prot. AR1221814D22DE37: 1600€ 2022