

Chiara Damiolini

Curriculum Vitae

Department of Mathematics
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Research interests

- Vertex operator algebras, conformal blocks and chiral homology from an algebraic perspective.
- Moduli spaces of curves, of coverings of curves, and their compactifications.
- Moduli spaces of (parahoric) bundles on curves.

Employment

University of Texas at Austin
Assistant Professor

01/2023 -

University of Pennsylvania
Postdoctoral Fellow

09/2021 - 12/2022

Rutgers University
Hill Assistant Professor

07/2020 - 08/2021

Princeton University
Instructor
Lecturer

07/2019 - 06/2020

09/2018 - 06/2019

Rutgers University
Visiting post doctoral position

01/2018 - 05/2018

Education

Universität Duisburg-Essen
PhD

09/2013 - 09/2017

Thesis: Conformal blocks attached to twisted groups

Università degli studi di Milano - Universiteit Leiden
Algant Master

08/2011 - 07/2013

Thesis: The braid group and the arc complex

Università degli Studi di Milano
Bachelor in Mathematics

09/2008 - 07/2011

Thesis: Categorical Galois theory

Publications and Preprints

- C. Damiolini, A. Gibney and D. Krashen
Morita equivalences for Zhu's associative algebra and mode transition algebras
ArXiv: 2403.11855
- E. Clader, C. Damiolini, C. Eur, D. Huang and S. Li
Multimatroids and rational curves with cyclic action
ArXiv: 2311.09314
To appear in IMRN
- C. Damiolini, A. Gibney and D. Krashen
Conformal blocks on smoothings via mode transition algebras
ArXiv: 2307.03767
- C. Damiolini and J. Hong
Local types of (Γ, G) -bundles and parahoric group schemes
ArXiv: 2210.02379
Proc. Lond. Math. Soc. (3) 127 (2023), no. 2, 261–294
- P. Belmans, C. Damiolini H. Franzen, V. Hoskins, S. Makarova and T. Tajakka
Projectivity and effective global generation of determinantal line bundles on quiver moduli
ArXiv: 2210.00033
- E. Clader, C. Damiolini S. Li and R. Ramadas
Wonderful compactification and rational curves with cyclic action
ArXiv: 2208.05463
Forum Math. Sigma 11 (2023), Paper No. e29, 32 pp
- C. Damiolini, A. Gibney and D. Krashen
Factorization presentations
ArXiv: 2207.05110
Accepted for publication in an LMS Lecture Notes volume in honor of Shokurov's 70th birthday
- C. Damiolini
On equivariant bundles and their moduli spaces
ArXiv:2109.08698
C. R. Math. Acad. Sci. Paris362(2024), 55–62
- C. Damiolini, A. Gibney
On global generation of vector bundles on the moduli space of curves from representations of vertex operator algebras
ArXiv:2107.06923
Algebr. Geom. 10 (2023), no. 3, 298–326
- E. Clader, C. Damiolini, D. Huang, S. Li and R. Ramadas
Permutohedral complexes and rational curves with cyclic action
ArXiv: 2104.06526
Manuscripta Math. 172 (2023), no. 3-4, 805–856
- C. Damiolini, A. Gibney and N. Tarasca
Vertex algebras of CohFT-type
ArXiv:1910.01658
London Math. Soc. Lecture Note Ser., 472, Cambridge University Press, Cambridge, 2022, 164–189
- C. Damiolini, A. Gibney and N. Tarasca
On factorization and vector bundles of conformal blocks from vertex algebras
ArXiv: 1909.04683
Accepted for publication in Ann. Sci. Éc. Norm. Supér. (2022)

- C. Damiolini, A. Gibney and N. Tarasca
Conformal blocks from vertex algebras and their connection on $\overline{M}_{g,n}$
ArXiv: 1901.06981
Geom. Topol. 25 (2021), no. 5, 2235–2286
- C. Damiolini
Conformal blocks attached to twisted groups
Math. Z. 295 (2020), no. 3-4, 1643–1681

Talks, conferences, visiting positions

Banff International Research Station Combinatorics and Geometry of Moduli Spaces of Curves workshop	08/2024
Universität Hamburg Mercator Fellow One month visit	07/2024
Isaac Newton Institute (Cambridge UK) Moduli stacks and enumerative geometry One month visit	06/2024
UC Irvine Research Talk	04/2024
Texas A&M University Texas Algebraic Geometry Symposium	04/2024
The Fields Institute for Research in Mathematical Sciences Workshop on New Directions in Conformal Field Theory	03/2024
UNC at Chapel Hill Workshop on Geometric Representation Theory and Moduli spaces	11/2023
Washington University Saint Louis WAGS	11/2023
Boston University Geometry and Physics seminar	10/2023
Universität Duisburg-Essen Vector Bundles on Algebraic Curves 2023	08/2023
Brown University Arithmetic, Birational Geometry, and Moduli Spaces in honor of Dan Abramovich's 60th birthday	06/2023
University at Albany, SUNY Women in Algebra and Combinatorics Conference	04/2023
American Institute of Mathematics Developments in moduli problems	03/2023
University of Pennsylvania Algebraic Geometry Graduate Student Seminar	12/2022
University of Wisconsin at Madison Matroids Day	11/2022
Oxford University Research seminar	05/2022
VBAC - Vector Bundles on Algebraic Curves	03/2022

Stacks and Good Moduli Spaces

IMPA, Rio de Janeiro International Workshop on Representation theory, Vertex and Chiral Algebras	03/2022
2021 CMS Winter Meeting Combinatorics and Geometry of Moduli Spaces	12/2021
University of North Carolina at Chapel Hill Geometric Methods in Representation Theory seminar	10/2021
Universität Hamburg Research Seminar Algebra and Mathematical Physics	10/2021
Technische Universität Darmstadt Conference on Vertex Algebras and related topics	09/2021
Universität Duisburg-Essen Oberseminar	05/2021
Università Roma 3 Seminar of Geometry	04/2021
Rutgers University Lie Groups/Quantum Mathematics seminar	04/2021
MIT Harvard-MIT Algebraic geometry seminar	03/2021
ICERM Geometry and combinatorics from root systems	03/2021
University of Colorado, Boulder Rocky Mountain Representation Theory Seminar	12/2020
Colorado State University Fragment Seminar	10/2020
University of Washington, Seattle Algebra and Algebraic Geometry Seminar and Pre-Seminar	01/2020
Goethe-Universität, Frankfurt am Main Oberseminar Algebra und Geometrie	12/2019
Yale University Geometry, symmetry and physics seminar	04/2019
Auburn university AMS Sectionals	03/2019
ICTP, Trieste TAGSS II - Summer School on Geometry of Moduli Spaces of Curves Working group leader	07/2018
Princeton University Algebraic geometry seminar	04/2018
University of California San Diego Algebraic geometry seminar	04/2018
Rutgers university AGNES: Algebraic Geometry Northeastern Series	04/2018
Rutgers university Algebra seminar	04/2018
University of North Carolina at Chapel Hill	03/2018

Geometric Methods in Representation Theory seminar	
University of Pennsylvania Geometry and Physics seminar	02/2018
University of Bath Géométrie Algébrique en Liberté Poster session	06/2017
Universität Duisburg-Essen Vector Bundles on Algebraic Curves	09/2017
Universität Freiburg Third meeting for young women in mathematics	02/2017
Max-Planck-Institut für Mathematik, Bonn Graduate school on moduli spaces Held one of the courses	09/2015

Teaching

Instructor of M408C University of Texas at Austin	Spring 2024
Reading course on <i>Moduli stacks and moduli spaces</i> University of Texas at Austin	Spring 2024
Reading course in Algebraic Geometry University of Texas at Austin	Fall 2023
Graduate topics course. Conformal blocks and the Verlinde formula University of Texas at Austin	Spring 2023
Reading course in Algebraic Geometry University of Pennsylvania	Spring 2022
Instructor of Math 151 Rutgers University, virtual	Spring 2021
Instructor of Math 151 Rutgers University, virtual	Fall 2020
Instructor of MAT175 Princeton University Course Head Departmental Teaching Award	Spring 2020
Instructor of MAT103 Princeton University Exam Prep section	Fall 2019
Instructor of MAT175 Princeton University	Spring 2019
Instructor of MAT175 Princeton University	Fall 2018
TA of Math 135 Rutgers University	Spring 2018
TA of Algebraic Topology Universität Duisburg-Essen	Spring 2014

Service

Organized Seminars and Conferences

Special Session at the 2nd AMS-UMI Joint Meeting Università degli Studi di Palermo with Z. Gui, M. Szczesny and B. Williams	2024
Geometry Seminar UT Austin	2023, 2024
Bundles and Conformal Blocks with a Twist ICMS Edinburgh, https://www.icms.org.uk/events/workshops/BCBT with J. Martens and S. Mukhopadhyay Grant: NSF 2200856	2022
Algebra Seminar Rutgers University, virtual with I. Coley and F. Rota	2020, 2021
Algebraic geometry seminar Joint seminar: Princeton University and IAS with R. van Dobben de Bruyn	2019
Annual meeting of graduate students SFB/TR 45 Integrated Research Training Group with F. Binda	2016
Reading course on Linear Algebraic Groups PhD students seminar at Universität Duisburg-Essen with N. uit de Bos	2015

Outreach

How to apply for a postdoc in Europe? Notices of the American Mathematical Society 67 (10), 1563-1565 with F. Binda	2020
Videos for Connect+Solve Princeton University part of the Freshman Scholars Connect program	2019
Archive Project Princeton University create a versatile archive of Calculus exams	2019, 2020
Mathematics in English Scuole Medie di Cedegolo and Ponte di Legno, Italy teaching mathematics in English in Italian middle schools	2017, 2018

Selected attended conferences, workshops and schools

Moduli spaces beyond geometric invariant theory AIM (virtual)	01/2021
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Women in Algebraic Geometry - Workshop ICERM (virtual)	07/2020
Moduli spaces, representation theory and quantization Research Institute for Mathematical Sciences, Kyoto	06/2019
Higgs bundles and related topics Université de Nice	05/2017
Geometry, Topology and Dynamics of Moduli Spaces Institute of Mathematical Sciences, National University of Singapore	08/2016
Summer School: Algebraic Stacks and Related Topics Johannes Gutenberg Universität Mainz	08/2015
2015 Summer Research Institute on Algebraic Geometry University of Salt Lake City	07/2015
Conformal blocks, vector bundles on curves and moduli of curves Università Sapienza, Rome	09/2013

Languages

English
Fluent

Italian
Native

German
Intermediate

French
Basic