

NITIN KUMAR CHIDAMBARAM
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<http://nitinchidambaram.github.io>

POSITIONS

- UNIVERSIDAD NACIONAL DE EDUCACIÓN A DISTANCIA, MADRID SEP 2025 - PRESENT
Ramón y Cajal Fellow (tenure-track)
- UNIVERSITY OF EDINBURGH OCT 2022 - AUG 2025
Postdoctoral Fellow
- MAX-PLANCK-INSTITUT FÜR MATHEMATIK, BONN AUG 2020 - SEP 2022
Postdoctoral Fellow

EDUCATION

- PHD. IN MATHEMATICS, UNIVERSITY OF ALBERTA SEP 2015 - JUL 2020
Thesis: Aspects of enumerative and categorical algebraic geometry
Advisors: Vincent Bouchard, David Favero.
- BTECH. ENGINEERING PHYSICS, INDIAN INSTITUTE OF TECHNOLOGY MADRAS 2011 - 2015
Dissertation: Moduli space of string compactifications on K3 surfaces
Advisor: Prasanta K. Tripathy.

PREPRINTS

1. Bouchard, Chidambaram, Giacchetto, Shadrin ‘Theta classes: generalized topological recursion, integrability and \mathcal{W} -constraints’,
arXiv:2505.11291 [math.AG] (submitted)
2. Chidambaram, Dołęga, Osuga ‘b-Hurwitz numbers from refined topological recursion’,
arXiv:2412.17502 [math.CO] (submitted)
3. Chidambaram, Dołęga, Osuga ‘b-Hurwitz numbers from Whittaker vectors for \mathcal{W} -algebras’,
arXiv:2401.12814 [math.AG] (submitted)

PUBLICATIONS

1. Borot, Chidambaram, Umer ‘Whittaker vectors at finite energy scale, topological recursion and Hurwitz numbers’,
J. Éc. polytech., Math., 12 (2025), 1503-1564
2. Borot, Bouchard, Chidambaram, Kramer, Shadrin ‘Taking limits in topological recursion’,
J. London Math. Soc. (2) 112 (2025), no. 3, article no. e70286
3. Chidambaram, Garcia-Failde, Giacchetto ‘Relations on $\overline{\mathcal{M}}_{g,n}$ and the negative r -spin Witten conjecture’,
Invent. Math. 241, 929–997 (2025)

4. Charbonnier, Chidambaram, Garcia-Failde, Giacchetto ‘Shifted Witten classes and topological recursion’, *Trans. Amer. Math. Soc.* 377 (2024), 1069-1110
5. Borot, Bouchard, Chidambaram, Creutzig ‘Whittaker vectors for \mathcal{W} -algebras from topological recursion’, *Sel. Math. New Ser.* 30, 33 (2024)
6. Chidambaram, Favero, ‘Windows for cdgas’, *Adv. Math.* 379 (2021), 107553
7. Ballard, Chidambaram, Favero, McFaddin, Vandermolen ‘Kernels for Grassmann Flops’, *J. Math. Pures Appl.* (9) 147 (2021), 29–59
8. Borot, Bouchard, Chidambaram, Creutzig, Noshchenko ‘Higher Airy structures, \mathcal{W} algebras and topological recursion’, *Mem. Amer. Math. Soc.* 296 (2024), no. 1476
9. Bouchard, Chidambaram, Dauphinee ‘Quantizing Weierstrass’, *Commun. Number Theory Phys.* 12 (2018), no. 2, 253–303
10. Kleinschmidt, Nicolai, & Chidambaram ‘Canonical Structure of the E_{10} Model and Supersymmetry’, *Phys. Rev. D* 91, 085039 (2015)

GRANTS AND AWARDS

• 2024	Ramón y Cajal Fellowship 2023	€251,800
• 2020	Alberta Graduate Excellence Scholarship	\$12,000
• 2019	Josephine Mitchell Prize 2019	\$10,000
• 2019	University of Alberta Graduate Fellowship	\$8,000
• 2019	PIMS Graduate Student Prize, University of Alberta	\$5,000
• 2018	Josephine Mitchell Scholarship, University of Alberta	\$4,000
• 2017	Eoin L. Whitney Scholarship, University of Alberta	\$1,800
• 2016	Josephine Mitchell Scholarship, University of Alberta	\$4,000
• 2014	DAAD Fellowship for undergraduate research in Germany	€2,500
• 2009	KVPY ¹ fellowship	

TEACHING

• SMSTC COURSE: HOMOLOGICAL ALGEBRA	2024
• MATH 100: CALCULUS I	2020
• MATH 102: LINEAR ALGEBRA	2019
• MATH 101: SINGLE VARIABLE CALCULUS	2017
• MATH 209: MULTI VARIABLE CALCULUS	2016
Teaching Assistant (led discussion sections, gave lectures and graded assignments and exams)	
• TEACHING ASSISTANT IN THE DECIMA ROBINSON SUPPORT CENTER	2016-2020
Helped undergraduate students one-on-one with their questions	

SUPERVISION

• Georgian Sarghi, Masters in Mathematics, University of Bonn.	May 2021 - June 2022
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¹Kishore Vygyanik Protsahan Yojana is a Govt of India fellowship for basic science research

ORGANIZATION

- “Refinements in Enumerative geometry and physics”, ICTS Bangalore, June 2026.
- Algebra seminar, University of Edinburgh, 2023-2025.
- “Derived, Birational, and Categorical Algebraic Geometry ”, BIRS workshop in Banff, November 2021.
- “Derived, Birational, and Categorical Algebraic Geometry (Online) ”, BIRS workshop, November 2020.
- “Derived Categories and (Non)commutative Algebraic Geometry ”, CMS Winter special session (online), December 2020.

SELECTED TALKS

- “Theta classes: integrability, W-constraints and topological recursion”, Algebraic geometry and moduli seminar, ETH Zurich, August 2025.
- “Gaiotto state from topological recursion”, Mathematical Physics seminar, University of Nagoya, April 2025.
- “CohFTs from r -th roots and integrability”, Combinatorics and interactions, IMPAN Krakow, March 2025.
- “b-Hurwitz numbers from W-algebra representations”, New Aspects in Topological Recursion, Resurgence and Related Topics, RIMS, Kyoto, July 2024.
- “b-Hurwitz theory, topological recursion and W-algebras ”, Geometry Seminar, ICMAT, Madrid, February 2024.
- “Gaiotto vectors from topological recursion”, The Sheffield Geometry and Physics Seminar, University of Sheffield, April 2023.
- “On the BGW τ -function”, Recent advances on Moduli Space of Curves, Les Diablerets, Switzerland, March 2023.
- “Negative over positive I: The CohFT”, New Trends in Mathematical Physics and Geometry session, PRIMA congress, Vancouver, December 2022.
- “Stratified Mukai via VGIT”, NSF Workshop on Matrix Factorizations and related topics, University of Notre Dame, November 2022.
- “ r -th roots: better negative than positive”, Algebra, Geometry and Physics seminar, HU Berlin and MPIM Bonn, November 2022.
- “An introduction to Airy structures and some applications”, Algebra Seminar, University of Edinburgh, October 2022.
- Mini-course (4 hours) “An introduction to the moduli space of curves and its intersection theory”, TRSalento 2022, Otranto, September 2022.
- “Negative over positive II: Integrability”, Geometry and Mathematical Physics Seminar, USTC, Hefei, June 2022.
- “ r -th roots: better negative than positive”, Colloquium talk, Tata Institute of Fundamental Research, Mumbai, April 2022.
- “Shifted Witten classes and topological recursion”, Séminaire de Géométrie Enumérative, Jussieu, November 2021.
- “Kernels for GIT wall crossings”, Algebra Seminar, Western University, March 2021.
- “Grassmann flops and Semi-orthogonal decompositions”, GLSMs conference (online), August 2020.
- “VGIT for cdgas”, Canadian Western Algebraic Geometry conference, University of Saskatchewan, March 2020.
- “ \mathcal{W} -constraints in enumerative geometry: Higher Airy structures”, FRAGMENT seminar, Colorado State University, October 2019.
- “Kernels for singular wall-crossings via cdgas”, Geometry and Algebra of Landau-Ginzburg Models, Fields Institute, September 2019.
- “An introduction to Derived Categories in Algebraic Geometry”, Graduate Summer School on Homological Algebra of Mirror Symmetry, Fields Institute, July 2019.
- “ \mathcal{W} -constraints in enumerative geometry ”, Alberta Number Theory Days, BIRS, Banff, May 2019.

REFEREEING SERVICE

Reviewer for Communications in Mathematical Physics, Dutch Research Council (NWO), Forum of Math Sigma, Geometry & Topology, International Mathematics Research Notices, Inventiones Mathematicae, Journal of the European Mathematical Society, Journal of the London Mathematical Society, Transactions of the AMS, US-Israel Binational Science Foundation.