

Nurömür Hülya Argüz

CONTACT INFORMATION	University of Georgia Department of Mathematics Boyd Research and Education, Room 318 Athens, GA 30602 / USA Hulya.Arguz@uga.edu	
PERSONAL INFORMATION	◇ Nationality: Germany	
EMPLOYMENT	University of Georgia Assistant Professor	08.2022- current
	Université de Versailles / Paris–Saclay Postdoctoral laureate of Fondation Mathématiques Jacques Hadamard Mentor: Dimitri Zvonkine	10.2019-09.2021
	Imperial College London Postdoctoral research associate PI: Tom Coates	01.2017-09.2019
SHORT TERM POSITIONS	Institute of Science and Technology Austria Postdoctoral fellow Tamàs Hausel group	10.2021-07.2022
	University of Cambridge, UK Visiting fellow Collaborator: Mark Gross	01.2018-03.2018
	IAS School, Princeton, USA Postdoctoral member Mentor: Paul Seidel and Mohammed Abouzaid	09.2016-12.2016
EDUCATION	University of Hamburg, Germany Ph.D., Mathematics, 16.08.2016 <ul style="list-style-type: none">• Thesis title: <i>Log geometric techniques for open invariants in mirror symmetry.</i>• Advisor: Bernd Siebert M.Sc., Mathematics, 28.03.2013 <ul style="list-style-type: none">• Thesis title: <i>Lagrangian submanifolds in Kato-Nakayama spaces.</i>• Advisor: Bernd Siebert Middle East Technical University, Turkey M.Sc., Mathematics, 2011, with Honours B.Sc., Mathematics, 2008, with Honours	

PAPERS

1. H. Argüz, P. Bousseau: "Fock-Goncharov dual cluster varieties and Gross-Siebert mirrors", arXiv:2206.10584, submitted.
2. H. Argüz: The Quantum Mirror to the Quartic del Pezzo Surface, 6 pages, arXiv:2112.09082, **Springer Proceedings in Mathematics and Statistics**, **396**, Lie Theory and Its Applications in Physics, ISBN-13: 9789811947506, (2022).
3. H. Argüz, P. Bousseau, R. Pandharipande, D. Zvonkine: Gromov–Witten Invariants of Complete Intersections, 90 pages, arXiv:2109.13323, submitted.
4. H. Argüz: Mirror symmetry for log Calabi–Yau pairs via the heart of canonical wall structures, 40 pages, arXiv:2109.08664, submitted.
5. H. Argüz, P. Bousseau: The flow tree formula for Donaldson-Thomas invariants of quivers with potentials, 50 pages, arXiv:2102.11200, to appear in **Compositio Mathematica**, (2022).
6. H. Argüz, M. Gross: The higher dimensional tropical vertex, 90 pages, arXiv:2007.08347, to appear in **Geometry & Topology**, (2021).
7. H. Argüz: Mirror symmetry for the Tate curve via tropical and log corals, 73 pages, arXiv:1712.10260, **Journal of the London Mathematical Society**, <http://doi.org/10.1112/jlms.12515>, (2022).
8. H. Argüz, P. Bousseau: Real log curves in toric varieties, tropical curves, and log Welschinger invariants, 57 pages, arXiv:2004.05124, to appear in **Annales de l’institut Fourier**, (2021).
9. H. Argüz: Real loci in (log-) Calabi-Yau manifolds via Kato-Nakayama spaces of toric degenerations, arXiv:1610.07195, **European Journal of Mathematics**, 7(3), 869-930, (2021).
10. H. Argüz, T. Prince: Cohomology of the fixed point locus of an anti-symplectic involution on Schoen’s Calabi–Yau, arXiv:1807.10172, **Rendiconti del Seminario Matematico Torino**, Vol. 79, 1, 15-20, (2021).
11. H. Argüz, T. Prince: On the cohomology groups of real Lagrangians in Calabi-Yau threefolds, 32 pages, arXiv:2002.03957, **Experimental Mathematics**, <https://doi.org/10.1080/10586458.2021.1926006>, (2021).
12. H. Argüz, T. Prince: Real Lagrangians in Calabi-Yau Threefolds, arXiv:1908.06685, **Proceedings of the London Mathematical Society** 121(2), pg. 287-311, (2020).
13. H. Argüz, M. Kalafat, Y. Ozan: Self dual metrics on non-simply connected 4-manifolds, **Journal of Geometry and Physics**, Volume 64, pg 79-82, (2013).
14. H. Argüz, M. Kalafat: Complex and symplectic structures on Panelled Web 4-manifolds, **Topology and its Applications**, 159, no:8, pg 2169-2173, (2012).

PUBLICATIONS OF
EXPOSITORY
NATURE, REPORTS,
AND THESIS

15. H. Argüz: Topological torus fibrations on Calabi–Yau manifolds via Kato–Nakayama spaces, arXiv:2003.11589, **Proceedings of GGT, Gökova Geometry Topology Conferences 2018/2019**, International Press, pg. 176-201, (2021).
16. H. Argüz, (2019): Toric degenerations and tropical enumeration of real curves with Welschinger signs, **Oberwolfach reports** 27/2019 DOI: 10.4171/OWR/2019/27, 45-47.

17. H. Argüz, (2015): Floer theory for the Tate curve via tropical geometry, **Oberwolfach reports** no 23/2015, DOI: 10.4171/OWR/2015/23, 1290-1293.
18. H. Argüz, (2016): Log-geometric techniques for open invariants in mirror symmetry. **PhD thesis, University of Hamburg**, <http://ediss.sub.uni-hamburg.de/>
19. H. Argüz, (2013): Real Lagrangians in Kato–Nakayama spaces. **MSc thesis, University of Hamburg**, available at departmental library.

HONORS AND AWARDS

- ◇ European Commission Marie-Curie grant, global fellowship scheme. Hosts: Brown University and Universität Leiden, 253052 Euros, declined when moving to the US (2021).
- ◇ Junior fellowship, Institut Mittag–Leffler, Sweden, 30000 SEK, (2020).
- ◇ Postdoctoral Laureate, Fondation Mathématiques Jacques Hadamard, (2019-2021).
- ◇ Conference organisation grants from the London Mathematical Society, The Heilborn Institute, and the Fondation Compositio Mathematica, to organize the conference on “New Perspectives on SYZ Mirror Symmetry” at Imperial College, 10000 GBP, (2020).
- ◇ Institute for Advanced Studies, postdoctoral funding through NSF, \$25.000, 9/2016-12/2016.
- ◇ PhD scholarship, RTG 1670 funded by DFG, 2013-2016.
- ◇ Qualification Scholarship, RTG 1670 funded by DFG, (2012-2013).
- ◇ Finalist at the Fame Lab Competition, organized by the British Council, for communicating “Calculus” to the public on a national TV channel, (2007).
- ◇ Money Award for ranking as 7th among half a million students in the yearly national high school entrance examination in Turkey (2000).

INVITED TALKS AT INTERNATIONAL CONFERENCES AND WORKSHOPS

1. 11/2022 “Kansas Geometry Days 2022”, **Kansas, United States**.
2. 11/2022 “Annual Meeting of the Simons Collaboration on Homological Mirror Symetry”, **NYC, United States**.
3. 09/2022 “Quivers, representation theory and physics”, **Cologne, Germany**.
4. 04/2022 “StringMath”, parallel session **Warsaw, Poland**.
5. 07/2022 “Workshop on Quantum Geometry”, **IHÉS, France**.
6. 04/2022 “Workshop on Quivers, Calabi–Yau Threefolds and DT Invariants”, **Jussieu, France**.
7. 04/2022 “Conference on Recent Advances on Moduli Spaces of Curves”, **Leysin, Switzerland**.
8. 11/2021 “Journées Géométrie Algébrique et Géométrie Complexe á Angers”, **Angers, France**.
9. 10/2021 “Oberwolfach workshop: New Techniques on Resolution of Singularities”, **Oberwolfach, Germany**.

10. 09/2021 Annual workshop of 3CinG (Classification, Computation, and Construction), **Warwick, UK**.
 11. 09/2021, “Tropical geometry and Singularities”, **Lille, France**.
 12. 06/2021 “XIV. International Workshop Lie Theory and Its Applications in Physics”, Sofia, Bulgaria, **online**.
 13. 06/2021 “Summer School of the ANR on Symplectic, Real, and Tropical Aspects of Enumerative Geometry”, **le Croisic, France**.
 14. 01/2021 “Joint Mathematics Meetings of American Mathematical Society”, Special Session on Arithmetic and Algebraic Geometry, **online**.
 15. 09/2020 “Workshop on Floer-theoretic and algebro-geometric aspects of SYZ mirror symmetry”, Simons Collaboration on Homological Mirror Symmetry, **online**.
 16. 12/2020 “FRG Workshop on Moduli Spaces and Stability”, <http://homepages.math.uic.edu/coskun/frg2020.html>, **online**.
 17. 02/2020, Kyoto University, “The 5th KTGU Mathematics Workshop for Young Researchers ”, **Kyoto, Japan**.
 18. 06/2019, Oberwolfach, “Workshop on Logarithmic Algebraic Geometry”, **Oberwolfach, Germany**.
 19. 03/2019, University of Loughborough, “Geometry and Physics Workshop”, **Loughborough, UK**.
 20. 02/2019, University of Freiburg, “Fourth Meeting for Young Women in Mathematics”, **Freiburg, Germany**.
 21. 10/2018, KIAS, “Matrix Factorizations and Mirror Symmetry”, **Seoul, South Korea**.
 22. 06/2018, “57th Annual Georgia Topology Conference”, **Georgia, USA**.
 23. 03/2018, Institut Mittag-Leffler, “Tropical Geometry”, **Djursholm, Sweden**.
 24. 02/2018, GLEN British “Algebraic Geometry Meeting”, **Sheffield, UK**.
 25. 12/2017, Higher School of Economics, “Conference on Mirror Symmetry and Related Topics”, **Moscow, Russia**.
 26. 08/2017, IBS Center for Geometry and Physics “Pacific Rim Conference on Complex and Symplectic Geometry”, **Pohang, South Korea**.
 27. 04/2015, Oberwolfach workshop on “Tropical Aspects in Geometry, Topology and Physics”, **Oberwolfach, Germany**.
- INVITED SEMINAR
TALKS AND
COLLOQUIA
28. 11/2022, Seminar on Clusters and Braids, organized by Misha Gorsky and José Simental **online**.
 29. 06/12/2021, Colloquium talk at the University of Oklahoma, held online, **Oklahoma, USA**.
 30. 06/12/2021, Colloquium talk at the University of Oklahoma, held online, **Oklahoma, USA**.

31. 03/12/2021, Colloquium talk at the University of Georgia, held online, **Georgia, USA.**
32. 30/11/2021, Colloquium talk at the University of Illinois Chicago, held online, **Chicago, USA.**
33. 21/11/2021, Seminar on Complex Algebraic Geometry, Université de Lorraine, **Nancy, France.**
34. 10/11/2021, Seminar on Algebraic Geometry, IST Austria, **Klosterneuburg, Austria.**
35. 09/11/2021, Colloquium talk at the Hausdorff Center of Mathematics, held online, **Bonn, Germany.**
36. 25/06/2021, Tropical Geometry in Zoom (TGiZ) Seminar, hosted at the Goethe University Frankfurt, **online.**
37. 6/05/21, Audition for a maitre de conférence post in Algèbre, Arithmétique, Géométrie algébrique at Université Paris Saclay, Orsay **online.**
38. 22/04/2021, Audition for a maitre de conférence post in geometry at Université d'Angers, **Angers, France.**
39. 19/04/2021, Audition for a maitre de conférence post in Algèbre et géométrie at Université de Paris, **online.**
40. 13/04/2021, "Seminar on Algebra, Geometry and Physics", Max Planck Institute Bonn joint with Humboldt University Berlin, **online.**
41. 02/04/2021, "Seminar on cluster algebras and quiver representations", organised Bernhard Keller and Pierre-Guy Plamandon, **online.**
42. 26/03/2021, "Seminar on cluster algebras and quiver representations", organised by Bernhard Keller and Pierre-Guy Plamandon, **online.**
43. 03/02/2021 Tenure-track job interview, "Vrije Universiteit Amsterdam", **online.**
44. 12/01/2021 "Laboratoire de Mathématiques de Versailles Algebra and Geometry Seminar", **online.**
45. 09/12/2020 "Boston University Geometry and Physics Seminar", Boston/USA, **online.**
46. 03/12/2020 "Northwestern University Geometry and Physics Seminar", Northwestern/USA, **online.**
47. 03/12/2020 "Zoom Algebraic Geometry Seminar", organised by Ivan Cheltsov at Edinburgh, UK, **online.**
48. 31/10/2020 Seminar series on "Moduli Across the Pandemic", organised by Dawei Chen and Qile Chen, **online.**
49. 16/09/2020 "UCGEN Algebraic Geometry Seminars", <https://sntp.ca/ucgen/>, **online.**
50. 09/05/2020, "Zoomerfest" mathematics seminars organized by Nikon Kurnosov, Moscow, Russia, **online.**
51. 27/04/2020, "Seminar in Real and Complex Geometry", **Tel Aviv, Israel.**

52. 24/04/2020, “Seminar on cluster algebras and quiver representations”, organised by Bernhard Keller at **Paris, France**.
53. 20/01/2020, Laboratoire de Mathématique Jean Leray, Nantes, “Seminar on Tropical Geometry in Europe”, **Nantes, France**.
54. 05/12/2019, IST Austria, “Seminar on Algebraic Geometry”, **Klosterneuburg, Austria**.
55. 15/11/2019, Paris Diderot University, “Seminar on Cluster algebras and quiver representations”, **Paris, France**.
56. 08/11/2019, Paris Diderot University, “Seminar on Cluster algebras and quiver representations”, **Paris, France**.
57. 06/11/2019, University of Versailles – Paris Saclay, “Seminar on Arithmetic and Algebraic Geometry”. **Versailles, France**,
58. 18/10/2019, Sorbonne University, “Seminar on Enumerative Algebraic Geometry”, **Paris, France**.
59. 31/01/2019, Radboud University, “Job Interview for a position of assistant professorship”, **Nijmegen, Netherlands**,
60. 16/11/2018, Sorbonne Université, “Séminaire de Géométrie Enumérative”, **Jussieu, France**,
61. 10/01/2018, Chinese University of Hong-Kong, “Mirror Symmetry and String Theory”, **Hong-Kong**.
62. 07/12/2017, University of Hannover, “Seminar on Algebraic Geometry”, **Hannover, Germany**.
63. 09/05/2017, University of Warwick, “Algebraic Geometry Seminar”, **Warwick, UK**.
64. 27/02/2017, Imperial College, “Algebraic Geometry Seminar”, **London, UK**.
65. 15/12/2016, University of Pennsylvania, “Homological Mirror Symmetry Seminar”, **Philadelphia, USA**.
66. 13/12/2016, University of Princeton, “Algebraic Geometry Seminar”, **Princeton, USA**.
67. 09/12/2016, Columbia “Symplectic Geometry, Gauge Theory and Categorification Seminar”, **NYC, USA**.
68. 06/12/2016, University of California, Berkeley “Algebraic Geometry Seminar”, **Berkeley, USA**.
69. 29/11/2016, University of Texas Austin, “Seminar of the research group of Sean Keel”, **Austin, USA**.
70. 14/11/2016, University of Rochester, “Geometry Seminar”, **Rochester, USA**
71. 03/11/2016, Simons Center, “Seminar on The Math of Gauge Fields”, **Stony-Brook, USA**.
72. 09/2016, IAS School, “Postdoctoral Members Seminar”, **Princeton, USA**.
73. 05/2016, University of Luxembourg, “Seminar on Algebra, Geometry and Quantization”, **Luxembourg**.

- 74. 12/2015, North German Algebraic Geometry Seminar, **Berlin, Germany**.
- 75. 09/2015, Max Planck Institute for Mathematics, “Seminar on Algebra, Geometry and Physic”, **Bonn, Germany**.
- 76. 02/2014, “Annual meeting of the RTG 1670: Mathematics inspired by string theory and quantum field theory”, **Travemünde, Germany**.
- 77. 09/2013, “Autumn School on Algebraic Geometry” Slides at the bottom of the website: [/urlhttps://sites.google.com/site/schoolrationalcurves/schedule](https://sites.google.com/site/schoolrationalcurves/schedule), **Poitiers, France**.

MINI COURSES

- 74. 01/2020 Kyoto University, “Lecture Series on the Tropical Vertex ”, **Kyoto, Japan**.
- 75. 01/2018, Guangzhou University, “Mini-course on Tropical Geometry”, **Guangzhou, China**.

VIDEOS OF RECORDED TALKS

- ◇ “ Gromov–Witten Theory of Complete Intersections”, Conference on Quantum Geometry at IHÉS, 2022. Video available at youtube: [link](#)
- ◇ “Mirror symmetry for log Calabi–Yau pairs”, 3CinG workshop hosted by the University of Warwick, 2021. Video available at youtube: [link](#)
- ◇ “Tropical enumeration of real log maps and log Welschinger invariants”, Tropical Geometry in Zoom seminar, 2021. Video available at youtube: [link](#)
- ◇ “Enumerating log maps via wall-crossing” at the NSF FRG Workshop on Moduli Spaces and Stability, 2021. Video available at youtube: [link](#)
- ◇ “Enumerating log maps via wall-crossing” at the ZAG (Zoom Algebraic Geometry) seminar organised by Ivan Cheltsov, 2020. Video available at youtube: [link](#)
- ◇ “The higher dimensional tropical vertex” at the online workshop of Simon’s collaboration on “Homological Mirror Symmetry”, 2020. Video available at the: [workshop’s website](#).
- ◇ “Log geometric techniques for open invariants in mirror symmetry” at the Simons Center, 2016. Video available at: [Stony-Brook video portal](#)
- ◇ “Log geometric techniques for open invariants in mirror symmetry”, at the IAS school, short talks of postdoctoral members, 2016. Video available at: [IAS video portal](#)

TEACHING EXPERIENCE

- ◇ Lecturer for “Calculus I”, University of Georgia, USA, fall 2022.
- ◇ Lecturer for “Riemannian Geometry”, Imperial College London, UK, 2018-2019.
- ◇ TA for “Algebra”, in German, University of Hamburg, Germany, 2014.
- ◇ TA for “Algebraic geometry II”, University of Hamburg, Germany, 2013.

SUPERVISION

- ◇ M.Sc. student at Imperial College London (subsequent position: PhD at the University of Edinburgh).

SERVICE

- ◇ Refereeing for the following journals:
 - Compositio Mathematica
 - Journal of Differential Geometry
 - Journal of the London Mathematical Society
 - Communications in Analysis and Geometry
- ◇ Reviewer for AMS Mathematical Reviews and for zbMath.

CONFERENCE ORGANIZATION

- ◇ Co-organiser of the “Conference on New Perspectives on SYZ Mirror Symmetry”, at Imperial College London, 2021, <https://sites.google.com/view/imperial-syz>.

LANGUAGES

- ◇ English, fluent
- ◇ French, fluent
- ◇ German, fluent
- ◇ Turkish, fluent