

Curriculum Vitae

DAVOOD NEJATY

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Address School of Mathematics and Statistics
University of Melbourne
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Education

- **University of Melbourne:** *Ph.D. in Mathematics*, Melbourne, VIC, Australia
Advisors: Gufang Zhao and Yaping Yang (University of Melbourne) - Steven Rayan (University of Saskatchewan)
Thesis: *Towards a topological mirror symmetry of the Landau-Ginzburg analogue of Hitchin spaces*
2021 - present
- **University of Saskatchewan:** Visiting Research Student, Saskatoon, SK, Canada
March - May 2025
- **Tarbiat Modares University:** *M.Sc. in Mathematics*, Tehran, Iran
Advisor: Abbas Heydari
Thesis: *Poisson structures on smooth 4-manifolds and their deformation quantizations*
2015 - 2017
- **University of Tehran:** *B.Sc. in Mathematics*, Tehran, Iran
Advisors: Hadi Zare and Gholamreza Rokni Lamooki
Thesis: *Differentiable manifolds, vector bundles, and Lie groups*
2010 - 2014

Scholarships and Grants

- **AMSI Travel Grant**, AMSI Winter School on New Directions in Representation Theory, University of Queensland, Brisbane, QLD, Australia (2022)
- **Melbourne Research Scholarship**, University of Melbourne (2021 - present)

Publications

Articles in preparation

- *Towards a topological mirror symmetry of the Landau-Ginzburg analogue of Hitchin spaces*

Conference and seminar presentations

- *A topological mirror symmetry for pairs of commuting Higgs fields*, McGill University, Montréal, QC, Canada (April 2025)
- *A topological mirror symmetry for pairs of commuting Higgs fields*, PIMS GAP Mini-symposium at the University of Saskatchewan, Saskatoon, SK, Canada (April 2025)
- *Gromov-Witten classes*. Student Seminar on Gromov-Witten theory, University of Melbourne (November 2024)
- *Moduli space of stable sheaves on a K3 surface*. Student Seminar on K3 surfaces, University of Melbourne (April 2024)
- *Vanishing cycle perverse sheaves*. Pure Math Student Seminar, University of Melbourne (March 2023)
- *Perverse filtration and vanishing cycles*. Student Seminar on the P=W Conjecture for GL_n , University of Toronto, ON, Canada (November 2022)
- *Moduli spaces of stable SL_2 and PGL_2 Higgs bundles*. Representation Theory Seminar, University of Melbourne (October 2022)

- *Real groups and Beilinson-Bernstein localization*. Joint talk with Linfeng Wei, Representation Theory Seminar, University of Melbourne (September 2022)
- *Higgs triples*. 3 Minute Thesis Competition. *New Directions in Representation Theory*. AMSI Winter School, University of Queensland, Brisbane, QLD, Australia (June 2022)
- *Hitchin systems*. Frontiers in Representation Theory Conference, MATRIX Mathematical Research Institute, Creswick, VIC, Australia (February 2022)
- *Integrable systems: Spectral curves and Lax pairs*. University of Melbourne (September 2021)
- *Integrable systems: Spectral curves and Lax pairs*. University of Saskatchewan, Saskatoon, SK, Canada (September 2021)
- *Branching theorem: Vershik-Okounkov approach to the representation theory of the symmetric groups*. Representation Theory Student Seminar, University of Melbourne (May 2021)
- *Frobenius formula and its application to covering spaces of Riemann surfaces*. Representation Theory Student Seminar, University of Melbourne (December 2020)
- *Deformations of associative algebras and Hochschild cohomology*. Tarbiat Modares University (May 2017)
- *Algebraic operads*. Tarbiat Modares University (January 2017)
- *Parallelism structures on vector bundles*. Tarbiat Modares University (March 2016)
- *On Jordan-Brouwer separation theorem and Brouwer theorem on the invariance of domain*. University of Tehran (March 2014)

Teaching Experience

- **Teaching Assistant:** MAST20009 Vector Calculus - Assoc. Prof. Ting Xue, University of Melbourne (Spring 2024)
- **Teaching Assistant:** MAST20026 Real Analysis - Prof. Christian Haesemeyer, University of Melbourne (Spring 2023 - Fall 2024)
- **Teaching Assistant:** MAST10007 Linear Algebra - Assoc. Prof. Nora Ganter, University of Melbourne (Fall - Spring 2023 and Summer 2024)
- **Tutor:** Mathematical Methods 3/4, VCE Summer School (University of Melbourne) (Summer 2021)
- **Tutor:** Algorithmics 3/4, VCE Summer School (University of Melbourne) (Summer 2021)
- **Teaching Assistant:** Abstract Algebra, Tarbiat Modares University (Fall 2017)
- **Teaching Assistant:** Algebraic Topology II, Tarbiat Modares University (Fall 2017)
- **Teaching Assistant:** Geometry of Manifolds I, Tarbiat Modares University (Fall 2017)

Professional services

Conferences, seminars, and reading groups (Co-)organized

- (with Muhammad Haris Rao) *Student Seminar on Gromov-Witten theory*, University of Melbourne (November - December 2024)
- (with Arun Ram, Dougal Davis, and Grace Yuan) *Pure Math Student Seminar*, University of Melbourne (February 2023 - November 2023)
- *String Math 2023*, University of Melbourne (July 2023)
- *Representation Theory Student Seminar*, University of Melbourne (April - November 2022)
- (with Zhongtian Chen) *Algebraic Geometry Reading Group*, University of Melbourne (April - November 2022)
- (with Zhongtian Chen) *Algebraic Groups Reading Group*, University of Melbourne (May - July 2022)

School of Mathematics and Statistics Master Students Peer Mentor (2022)

Review duties

- (with Fei Peng, Xinyi Yang, and Rodney Dharma) *StAMPS review*, A peer review student journal at the School of Mathematics and Statistics, University of Melbourne (March 2025 - present)

References

- **Gufang Zhao**, University of Melbourne, `gufangz@unimelb.edu.au`
- **Yaping Yang**, University of Melbourne, `yaping.yang1@unimelb.edu.au`
- **Steven Rayan**, University of Saskatchewan, `steven.rayan@usask.ca`
- **Michael Gröchenig**, University of Toronto, `michael.groechenig@utoronto.ca`
- **Jim Bryan**, University of British Columbia, `jbryan@math.ubc.ca`