

# Jingchen Niu

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EMPLOYMENT **University of Arizona**, Department of Mathematics  
Visiting Scholar, 2020–present  
Postdoctoral Research Associate, 2016–20, Mentor: Yi Hu

EDUCATION **Stony Brook University**, USA  
Ph.D., Mathematics, 2016, Advisor: Aleksey Zinger  
**Tsinghua University**, China  
B.S., Mathematics and Physics, 2008; M.A., Mathematics, 2010

RESEARCH INTERESTS Algebraic and symplectic geometry, including the study of moduli spaces, birational geometry, enumerative geometry, and the Gromov-Witten theory.

PUBLICATIONS & PREPRINTS

- *A theory of stacks with twisted fields and resolution of moduli of genus two stable maps* (with Y. Hu), arXiv:2005.03384, 37 pages, 5 figures
- *Moduli of curves of genus one with twisted fields* (with Y. Hu), submitted, arXiv:1906.10527, 23 pages, 2 figures
- *Genus two stable maps, local equations and modular resolutions* (with Y. Hu and J. Li), submitted, arXiv:1201.2427v3, 84 pages, 7 figures
- *Lower bounds for enumerative counts of positive-genus real curves* (with A. Zinger), Adv. Math. 339 (2018), 191–247
- *Refined convergence for genus-two pseudo-holomorphic maps*, Ph.D. Thesis, Stony Brook 2016, 87 pages, 6 figures

ARTICLES IN WRITING

- *A sharp compactness theorem for genus-two pseudo-holomorphic maps*

UNPUBLISHED NOTES

- *Lower bounds for enumerative counts of positive-genus real curves: appendix* (with A. Zinger), 121 pages, 316 diagrams, available on the authors' website.

INVITED TALKS

Conferences

- Moduli on Chestnut Hill, Boston College, 2020  
Title: *A theory of stacks with twisted fields and resolution of moduli of stable maps*
- Higher Genus Gromov-Witten Invariants of Calabi-Yau Threefold, BICMR, Peking University, China, 2019  
Title: *Desingularization of moduli of genus 2 stable maps*
- Shanks Workshop on Real Algebraic Geometry, Vanderbilt University, 2017  
Title: *Complex and real Gromov-Witten invariants and curve counts*

## Seminars

- Working seminar on smooth compactifications and bChow intersections via blowups or subdivisions, University of Bonn, Germany, 2020  
Title: *Towards Resolution of Moduli of Stable Maps, II*
- Geometry Seminar, University of Kansas, 2020  
Title: *Towards a smooth compactification of the space of curves in projective spaces*
- Algebraic Geometry Seminar, University of Arizona, 2019  
Title: *A theory of stacks with twisted fields and its applications*
- Algebraic Geometry Seminar, University of Arizona, 2019  
Title: *Moduli of curves with twisted fields and desingularization of moduli of stable maps*
- Geometry & Physics Seminar, University of Michigan, Ann Arbor, 2018  
Title: *Modular resolution of the moduli space of genus 2 stable maps*
- Algebraic Geometry Seminar, University of Arizona, 2018  
Title: *Genus 2 stable maps and modular resolutions*
- Algebraic Geometry Seminar, University of Arizona, 2018  
Title: *Counting positive-genus real curves*
- Algebraic Geometry Seminar, University of Arizona, 2016  
Title: *Refined convergence for genus 2 pseudo-holomorphic maps*
- Symplectic Topology Reading Seminar, SCGP, Stony Brook University, 2015  
Title: *Real and complex Gopakumar-Vafa formulas for Fano classes*

## AWARDS

- Summer Research Award, Math. Dept., Stony Brook University, 2014
- Nominated for the Outstanding Postdoctoral Scholar Award, University of Arizona, 2020

## SEMINAR ORGANIZATION

- Algebraic Geometry Seminar, University of Arizona, 2016, 2019, 2020

## ADVISING & OUTREACH

- Wenda Fang, Undergraduate Independent Study, University of Arizona, 2018 (now a graduate student in RIMS Kyoto University, Japan)
- Marcel Hudiani, UTA program, University of Arizona, 2020
- Arjun Nigam, Honors Contract, University of Arizona, 2020
- Volunteering for Tucson Math Circle at the University of Arizona

## TEACHING EXPERIENCE

### University of Arizona

- top 2 overall ratings 4.65, 4.57/5 (upper-division); 4.25, 4.17/5 (lower-division)
- Math 413/513 - Linear Algebra 2020
- Math 313 - Introduction to Linear Algebra two sections in 2019
- Math 223 - Vector Calculus four sections in 2017-18
- Math 122B - First Semester Calculus 2016

### Stony Brook University

- MAP 122 - Overview of Calculus with Applications Summer 2012
- MAP 103 - Proficiency Algebra Summer 2011
- Calculus Recitations (MAT 125, 126, 131, 132) 2011-15