

Xing Gu

CONTACT INFORMATION

Max Planck Institute for Mathematics,
Vivatsgasse 7
53111 Bonn
Germany
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EDUCATION

The University of Illinois at Chicago, Chicago, Illinois, USA

Ph.D., Mathematics, June 2017

Thesis: *On the Cohomology of the Classifying Spaces of Projective Unitary Groups and Applications*

Ph.D. Candidate, Mathematics, May 2014

- Advisors: Benjamin Antieau, Brooke Shipley

Nankai University, Tianjin, China

M.S., Mathematics, June, 2013

Advisor: Xiangjun Wang

Nankai University, Tianjin, China

B.S., Mathematics, June, 2010

RESEARCH INTERESTS

Algebraic topology, homotopy theory.

EMPLOYMENT

Max Planck Institute for Mathematics, Bonn, Germany

Postdoctoral Fellow

February 2020-

The University of Melbourne, Melbourne, Australia

Research Fellow

Mentor: Christian Haesemeyer

November 2017- January 2020.

PUBLICATIONS

X. Gu, Some torsion classes in the Chow ring and cohomology of $BPGL_n$, to appear in *J. Lond. Math. Soc.*, DOI:10.1112/jlms.12368, arXiv: 1901.10090.

X. Gu, The topological period-index problem over 8-complexes, II, to appear in *Proc. Amer. Math. Soc.*, DOI: 10.1090/proc/15112, arXiv: 1803.05100.

X. Gu, The topological period-index problem over 8-complexes, I, *J. Topol.*, 12.4 (2019): 1368-1395. arXiv: 1709.00787.

X. Gu, On the cohomology of the classifying spaces of projective unitary groups, *J. Topol. Anal.*, online ready, DOI: 10.1142/S1793525320500211, arXiv: 1612.00506.

PREPRINTS

X. Gu, On the Brown-Peterson cohomology of BPU_n in lower dimensions and the Thom map, arXiv: 2005.03107

D. Crowley, X. Gu, and C. Haesemeyer, On the topological period-index problem over 8-manifolds, arXiv: 1911.07206.

X. Gu, X. Wang, and J. Wu, The cohomology ring of $S(3)$ and its application to stable homotopy groups of spheres, submitted, arXiv: 1903.02730.

CONFERENCE TALKS *The Topological Period-Index Problem*, the 63rd Annual Meeting of the Australian Mathematical Society, December 6th, 2019, Monash University, Clayton, VIC, Australia.

The Topological Period-Index Problem, Topology in Australia and South Korea, April 26th, 2018, POSTECH, Pohang, South Korea.

On the Cohomology of the Classifying space of PU_n , 1127th AMS Meeting (1127-55-18), April 2nd, 2017, Indiana University, Bloomington, IN, USA.

On the Cohomology of the Classifying Spaces of Projective Unitary Groups, Topological Approaches to Algebra and Arithmetic Geometry, September 2016, The University of Georgia, Athens, GA, USA. <http://torsor.github.io/taaag/>

SELECTED SEMINAR TALKS *The Topological Period-Index Problem*, online seminar, June 16th, 2020, the Max Planck Institute of Mathematics, Bonn, Germany.

The Topological Period-Index Problem, online seminar, June 9th, 2020, the University of Haifa, Haifa, Israel.

The Cohomology and Chow Ring of BPU_n ($BPGL_n(\mathbb{C})$), June 19th, 2019, The University of British Columbia/The Pacific Institute for the Mathematical Sciences, Vancouver, BC, Canada.

The Chow Ring and Cohomology of $BPGL_n$, April 1st, 2019, The University of Melbourne, Parkville, VIC, Australia.

The Topological Period-Index Problem over 8-Complexes July 3rd, 2017, China Academy of Sciences, Beijing, China.

On the Cohomology of BPU_n and Its Application, January 31st, 2017, The University of Chicago, Chicago, IL, USA.

On the Cohomology of the Classifying Spaces of Projective Unitary Groups, December 18th, 2016, Nankai University, Tianjin, China.

On the Characteristic Classes of PU_n and Its Application, December 16th, 2016, China Academy of Sciences, Beijing, China.

TEACHING **Graduate Topology Seminar: Rational Homotopy Theory**, Mar. 21th, 2019 - The University of Melbourne, Parkville, VIC, Australia. <https://blogs.unimelb.edu.au/xing-gu/teaching/>

Graduate Topology Seminar: Cohomology and Topological K-Theory, Jul. 27th, 2018 - Oct. 18, 2018. Co-organizer (with Diarmuid Crowley, Marcy Robertson and Huijun Yang), The University of Melbourne, Parkville, VIC, Australia. <http://michellestrumila.com/graduatetopologyseminar20182/>

Graduate Student Learning Seminar: Cohomology Operations and the Steenrod Alge-

bra,
Co-organizer (with Arik Wilbert and Huijun Yang),
University of Melbourne, Melbourne, VIC, Australia.
http://www.arik-wilbert.de/steenrod_seminar/

Feb. 16th, 2018 - May 25th, 2018,

Math 125. Linear Algebra
Teaching assistant
The University of Illinois at Chicago, Chicago, Illinois, USA.

Summer 2017.

Math 165. Calculus for Business Students
Teaching assistant
The University of Illinois at Chicago, Chicago, Illinois, USA.

Spring 2017.

Math 165. Calculus for Business Students
Teaching assistant
The University of Illinois at Chicago, Chicago, Illinois, USA.

Fall 2015.

Math 165. Calculus for Business Students
Teaching assistant
The University of Illinois at Chicago, Chicago, Illinois, USA.

Spring 2015.

Math 181. Calculus II
Teaching assistant
The University of Illinois at Chicago, Chicago, Illinois, USA.

Fall 2014.

Math 180. Calculus I
Teaching assistant
The University of Illinois at Chicago, Chicago, Illinois, USA.

Spring 2014.

Math 165. Calculus for Business Students
Teaching assistant
The University of Illinois at Chicago, Chicago, Illinois, USA.

Fall 2013.

Math 165. Calculus for Business Students
Teaching assistant
The University of Illinois at Chicago, Chicago, Illinois, USA.

Spring 2013.

Math 182. Calculus III
Teaching assistant
The University of Illinois at Chicago, Chicago, Illinois, USA.

Fall 2013.

LANGUAGES Chinese: native language
 English: fluent (reading, speaking, writing)
 French: basic (reading)

CITIZENSHIP Citizen of China