Zhen Huan

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RESEARCH

Algebraic topology, algebraic geometry and mathematical physics.

INTERESTS POSITION

Sun Yat-sen University, Guangzhou, China

Research Associate, August 2017-present

VISITING POSITION Universität Duisburg-Essen, Essen, Germany

Research Assistant, April 2018-July 2018.

Supervisor: Marc N. Levine.

EDUCATION

University of Illinois at Urbana-Champaign

Ph.D. in Mathematics, May 2017 ¹

• Dissertation Defense Date: May 5th 2016

• Dissertation Title: Quasi-Elliptic Cohomology

• Advisor: Charles Rezk

Indiana University Bloomington

M.A. in Mathematics, October 2009 ²

Peking University

B.A. in Mathematics, May 2006

• Thesis Title: Morse Theory and Bott Periodicity

• Advisor: Houhong Fan

Publication

- Zhen Huan, *Quasi-Elliptic Cohomology I.*, Advances in Mathematics. Volume 337, 15 October 2018, Pages 107-138. https://doi.org/10.1016/j.aim.2018.08.007.
- Zhen Huan, Quasi-Elliptic Cohomology and its Power Operations, J. Homotopy Relat. Struct. (2018). https://doi.org/10.1007/s40062-018-0201-y.
- Zhen Huan, *Quasi-elliptic cohomology*, Thesis (Ph.D.)—University of Illinois at Urbana-Champaign. 2017. 290 pp. http://hdl.handle.net/2142/97268.

Preprint

- Zhen Huan, Quasi-Elliptic Cohomology and its Spectrum, available at arXiv:1703.06562. Submitted for publication.
- Zhen Huan, *Universal Finite Subgroup of Tate Curve*, available at arXiv:1708.08637. Submitted for publication.

¹My PhD thesis is 290 pages long. After my defense, I revised the paper for one year to make it more readable and classy under Charles Rezk and Matthew Ando's advice.

²During the phase of doctoral research, my research interest switched to algebraic topology and I transferred to UIUC in 2010 whose algebraic topology group was much larger.

Work in Progress

- Zhen Huan and Nathaniel Stapleton, Level Structures, Loop Spaces, and Morava E-theory. In Preparation.
- Zhen Huan, Almost Global Homotopy Theory. In Preparation.

INVITED TALKS

- Georg-August-Universität Göttingen Seminar, Quasi-elliptic cohomology, June 6, 2018
- The University of Duisburg-Essen Research Seminar Arithmetic Geometry, Quasielliptic cohomology, May 17, 2018.
- Chinese Academy of Sciences Topology Seminar, Quasi-elliptic cohomology, March 29, 2018.
- Sun Yat-sen University, Zhuhai Campus, Quasi-elliptic cohomology, January 12, 2018.
- Peking University Geometry and Topology Seminar, Quasi-elliptic cohomology, November 30, 2017.
- South China Normal University Topology Seminar, *Quasi-elliptic cohomology*, November 16, 2017.
- Southern University of Science and Techonology Topology Seminar, *Quasi-elliptic cohomology*, November 14, 2017.
- Poster Session, Schubert Calculus International Festival, Quasi-elliptic cohomology, November 9, 2017.
- AMS Special Session on Homotopy Theory, Quasi-elliptic cohomology, November 5, 2017
- Nankai University Algebraic Topology Seminar, Quasi-elliptic cohomology, October 10, 2017.
- Parallel Session, Conference "Homotopy theory: tools and applications", *Quasi-elliptic cohomology*, July 17, 2017.
- Informal Session, Conference on invertible objects and duality in derived algebraic geometry and homotopy theory, the University of Regensburg, Germany, *Quasielliptic cohomology*, April 3, 2017.
- AMS Special Session on Homotopy Theory, Quasi-elliptic cohomology, April 1, 2017.
- AMS Special Session on Topology and Arithmetic, *Quasi-elliptic cohomology*, October 30, 2016.
- University of Chicago Algebraic Topology Seminar, Quasi-elliptic cohomology, November 25 2014.
- Northwestern University Algebraic Topology Seminar, Quasi-elliptic cohomology, November 24 2014.

TEACHING EXPERIENCE

University of Illinois at Urbana-Champaign

Main instructor of

- NetMath MATH 231-Calculus II, Summer 2016.
- MATH 124-Finite Mathematics, Spring 2016.
- MATH 124-Finite Mathematics, Fall 2015.
- MATH 124-Finite Mathematics, Spring 2015.
- MATH 119-Ideas in Geometry, Fall 2013.

Led discussion sessions for

- MATH 221-Calculus I, Fall 2016.
- MATH 231-Calculus II, Fall 2012.
- MATH 234-Calculus for Business I, Spring 2012.
- MATH 231-Calculus II, Fall 2011.

FELLOWSHIP AND AWARDS James P. Williams Memorial Award in recognition of outstanding scholastic achievement in the first year of graduate studies, from Department of Mathematics, Indiana University, Bloomington, 2007.

SERVICE

• Co-organizer of the conference "International Workshop on Algebraic Topology" at Southern University of Science and Technology, June 6-9, 2018.

References

Doctoral Supervisor

Charles Rezk, University of Illinois at Urbana-Champaign, rezk@math.uiuc.edu 1(217) 265-6309.

Dissertation Committee Member

Matthew Ando, University of Illinois at Urbana-Champaign, mando@illinois.edu $1(217)\ 244-2846$.

Host

Thomas Schick, Georg-August-Universität Gottingen, thomas.schick@math.uni-goettingen.de 49(551)39-7766.

Host

Chenchang Zhu, Georg-August-Universität Gottingen, zhu@uni-math.gwdg.de 49(551)39-7799.