Charles Ouyang

CONTACT INFORMATION

Department of Mathematics
Washington University

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CITIZENSHIP

US Citizen (born Oakland, California)

RESEARCH INTERESTS

Higher Teichmüller theory, Higgs bundles, harmonic maps, minimal surfaces, Riemann surface theory, geometric analysis

APPOINTMENTS

Washington University in St. Louis

Assistant Professor, August 2023 - current

University of Massachusetts, Amherst

NSF Postdoctoral Fellow, July 2022 - August 2023

Visiting Assistant Professor, August 2020 - 2022

Mentor: Professor Franz Pedit

EDUCATION

Rice University

Ph.D. in Mathematics, May 2020

Thesis: Degeneration of minimal surfaces in the bidisc
Advisor: Professor Michael Wolf

Princeton University

A.B. in Mathematics, *cum laude*, June 2014

Advisor: Professor Robert Gunning

PAPERS

C. Ouyang, High energy harmonic maps and degeneration of minimal surfaces, arXiv:1910.06999, (2019) 1-37. (to appear in *Geometry & Topology*)

C. Ouyang, A. Tamburelli, Limits of Blaschke metrics, *Duke Math. J.*, **170**(8), (2021) 1683-1722. arXiv:1911.02119,

C. Ouyang, A. Tamburelli, Length spectrum compactification of the SO(2,3) Hitchin component, *Advances in Mathematics*, **420**, (2023) 1-37. arXiv:2010.03499,

C. Ouyang, A. Tamburelli, Boundary of the Gothen components, *Topology and its Applications*, **326**, (2023) 1-11. arXiv:2105.01779,

G. Martone, C. Ouyang, A. Tamburelli, A closed ball compactification of a maximal component via cores of trees, arXiv:2110.06106, (2021) 1-25. (revisions requested)

S. Heller, C. Ouyang, F. Pedit, Higgs bundles and SYZ geometry, arXiv:2203.04224, (2022) 1-35. (submitted)

S. Heller, C. Ouyang, F Pedit, Higher genus minimal Lagrangians in $\mathbb{CP}^2$, (in preparation)

P. Evans, C. Ouyang, A. Tamburelli, Metric degeneration of almost-complex curves in $S^{2,4}$, (in preparation)

Invited Talks

Geometry and Topology Seminar, Indian Institute of Science (April 2023)

Geometry and Topology Seminar, Caltech (February 2023)

Geometric Analysis Seminar, University of Chicago (February 2023)

Colloquium, Michigan State University (January 2023)

Colloquium, Chinese University of Hong Kong (January 2023)

Colloquium, Washington University in St. Louis (December 2022)

The 5th International Workshop, Geometry of Submanifolds and Integrable Systems, Mathematical Society of Japan, (November 2022)

9^{th} International Congress of Chinese Mathematicians (postponed Summer 2024)

Geometry and Physics seminar, Boston University (October 2022)

Geometric Structures (re)United, University of Illinois, Chicago (June 2022)

Applications of Harmonic Maps and Higgs Bundles to Differential Geometry, RIMS Kyoto (June 2022)

Integrable Geometry and Related Topics, Tokushima University (June 2022)

Geometric Analysis Seminar, Peking University (April 2022)

Differential Geometry and Integrable Systems conference, Mathematical Society of Japan - Seasonal Institute (March 2022)

Valley Geometry Seminar, Amherst MA (September 2021)

Nearly Carbon Neutral Geometric Topology Conference (June 2021)

Differential Geometry Seminar, UC Santa Barbara (May 2021)

Geometry and Topology Seminar, Yale University (April 2021)

Groups and Dynamics Seminar, University of Texas, Austin (January 2021)

Analysis and Geometry Seminar, Northeastern University (December 2020)

Geometry and Analysis Seminar, Rice University (October 2020)

The "What is...?" Graduate Student Seminar, University of Massachusetts, Amherst (October 2020)

Chern Institute of Mathematics, Nankai University (January 2020)

USC Seminar for Early Career Mathematicians in Teichmüller Theory and Quantum Topology, University of Southern California (September 2019)

Geometric Analysis Seminar, The Graduate Center, City University of New York. (September 2019)

Graduate Student Topology and Geometry Conference, University of Illinois at Urbana-Champaign, IL. (March 2019)

Workshop on Relative Character Varieties and Parabolic Higgs Bundles, Indio, CA. (February 2018)

British Isles Graduate Workshop, Isle of Wight. (April 2017)

Geometric Analysis Working Seminar, Rice University 2016-2019

Teaching Experience

Fall	2023	Linear Algebra, WashU
Spring	2022	Calculus II (two sections), UMass
Fall	2021	Calculus II (two sections), UMass
Spring	2021	Multivariable Calculus (two sections, flipped), UMass
Fall	2020	Honors Calculus I, UMass
Summer	2020	Linear Algebra, Rice
Fall	2017	Single Variable Calculus II, Rice
Summer	2017	Single Variable Calculus I, Rice

Grants and Awards

2022	NSF Mathematics Postdoctoral Fellowship: $\$150,000$
2022	Invited speaker, International Congress of Chinese Mathematicians
2021	AMS-Simons Travel Grant: $\$5,000$
2019	Graduate Teaching Award for Independent Instruction (university-wide distinction), Rice University
2015–2020	Graduate Student Fellowship, Rice University
2014	Graduated *cum laude*, Princeton University
2010	Valedictorian, Alameda High School
2009	National AP Scholar

Service

Co-organizer, Minimal surfaces in symmetric spaces, BIRS-IMAG, Granada, May 21-26, 2023.

Co-founder, Directed Reading Program, UMass, Spring 2022.

Co-organizer, Special Session on Non-Abelian Hodge Theory and Minimal Surfaces, AMS Fall Eastern Sectional Meeting, October 1-2, 2022.

Mentor, Directed Reading Program with undergraduates, Rice University, Summer 2021

Co-organizer, Geometry and Analysis Seminar, University of Massachusetts, Amherst Spring 2021-

Co-organizer, RTG Workshop on Geometric Aspects of Higgs Bundles, Sunriver, Oregon, May 2019

Graduate Student Mentor, reading course with two undergraduates, Rice University, Spring 2019.

Rice Math Circle Volunteer, Rice University, 2015-2016

Interviewer, Alumni Schools Committee, Princeton University, 2014-.

Refereed papers for: Conformal Geometry and Dynamics, Journal of Geometric Analysis, SIGMA (Symmetry, Integrability and Geometry: Methods and Applications), Transactions of the AMS

Relevant Skills

Languages: English (native), German (intermediate), French (reading), Cantonese (speaking)