

Yi Huang

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Nationality: Australian
Date of Birth: December 17, 1986

Education, fellowship and work history

Assistant Professor, Yau Mathematical Sciences Center, Tsinghua University, Sep, 2019 – present.

Postdoctoral fellow, Yau Mathematical Sciences Center, Tsinghua University, Dec 01, 2015 – Dec 31, 2018.

AK Head Mathematical Scientists Travelling Scholar, University of Grenoble, University of Strasbourg, Yale University, University of Illinois at Chicago and Western Illinois University, Jun 14 – Aug 1, 2015.

Australian Mathematical Society Lift-off Travelling fellow, National University of Singapore and Osaka University, Jan 19 – Feb 27, 2015.

Ph.D. in Mathematics (supervisor: Paul Norbury), University of Melbourne, Mar, 2009 – Dec 17, 2014.

BSc. (Honours) in Pure Mathematics (Honours supervisor: Paul Norbury), University of Melbourne, Feb, 2005 – Dec, 2008.

Articles and Preprints

1. Joint with Ken'ichi Ohshika and Athanase Papadopoulos, *The infinitesimal and global Thurston geometry of Teichmüller space*, ArXiv preprint (submitted to the Journal of Differential Geometry), 2021.
2. *McShane-type Identities for Quasifuchsian Representations of Nonorientable Surfaces*, International Mathematics Research Notices, volume 2021 (3), 2021.
3. *Optimal Lipschitz maps on one-holed tori and the Thurston metric theory of Teichmüller space*, Geometriae Dedicata, volume 214, 2021
4. Joint with Bob Penner and Anton Zeitlin, *Super McShane identity*, accepted by the Journal of Differential Geometry, 2019.
5. Joint with Zhe Sun, *McShane identities for higher Teichmüller theory and the Goncharov-Shen potential*, accepted by the Memoirs of the American Mathematical Society, 2019.
6. *McShane identities for convex projective surfaces and beyond*, Oberwolfach Report, 2018.
7. Joint with Paul Norbury, *Simple geodesics and Markoff quads*, Geometriae Dedicata, volume 186 (1), 2017.
8. *Mirzakhani's recursion formula on Weil-Petersson volume and applications*, Handbook of Teichmüller theory, Vol. VI, 2016.
9. *Moduli Spaces of Surfaces*, Bulletin of the Australian Mathematical Society, volume 92 (1), 2015.
10. *A McShane-type identity for closed surfaces*, Nagoya Mathematical Journal, volume 219, 2015.

Conference and Seminar Talks

The 17th East Asian Conference on Geometric Topology, Jan 18–21, 2022.

Quantum Curves, Integrability and Cluster Algebras MATRIX, Dec 13–18, 2021.

Geometry of Moduli Space of Low Dimensional Manifolds RIMS (Kyoto University), Jan 7–10, 2019.

PKU Topology Seminar, Peking University, May 18, 2021

Geometry of Moduli Space of Low Dimensional Manifolds RIMS (Kyoto University), Jan 7–10, 2019.

The 102th Encounter between Mathematicians and Theoretical Physicists IRMA (University of Strasbourg), September 13–15, 2018.

New Trends in Teichmüller Theory and Mapping Class Groups Mathematisches Forschungsinstitut Oberwolfach, September 3–7, 2018.

A McShane identity for finite-area convex projective surfaces Fudan University, April 13, 2018.

Global Differential Geometry Workshop, TSIMF, Tsinghua University, February 26–March 2, 2018.

Pure Mathematics Seminar, University of Melbourne, February 19, 2018.

Workshop on Grothendieck-Teichmüller Theories (plenary session), Chern Institute of Mathematics, Nankai University, July 24–30, 2016.

Teichmüller Theory and Low-Dimensional Topology, TSIMF, Tsinghua University, January 11–15, 2016.

Séminaire GT₃, IRMA, University of Strasbourg and CNRS, June 17, 2015.

Low Dimension Topology Seminar, Osaka University, February 24, 2015.

Riemann surfaces and discontinuous groups, Osaka University, February 14–16, 2015.

Topology and Geometry Seminar, National University of Singapore, January 21, 2015.

The 8th Australia New Zealand Mathematics Convention, The University of Melbourne, December 8–12, 2014.

Pure Seminar, Monash University, September 15, 2014.

Low Dimension Topology Seminar, Osaka University, July 22, 2014.

N-KOOK Seminar, Osaka City University Cultural Exchange Center, April 5, 2014.

The Second Pacific Rim Mathematical Association Congress, Shanghai Jiao Tong University, Shanghai Jiao Tong University, June 24–28, 2013.

Australian Mathematical Sciences Institute Summer School 2013, The University of Melbourne, January 7–February 1, 2013.

The 56th Annual Australian Mathematical Society Meeting (student speaker–honourable mention), The University of Ballarat, September 24–27, 2012.

Geometry and Arithmetic Around Teichmüller Theory, Galatasaray University, November 15–19, 2011.

Grants, Awards and Services

Young Scientist Fund (Beijing Natural Science Foundation): Principal Investigator, 2022.

Special Postdoctoral Financial Grant (China Postdoctoral Science Foundation): Principal Investigator, 2017.

Class-2 General Postdoctoral Financial Grant (China Postdoctoral Science Foundation): Principal Investigator, 2016.

Postdoctoral International Exchange Program (China Postdoctoral Science Foundation): 2016.

Tsinghua University Postdoctoral Fellow Support Program (Tsinghua University): 2015.

AK Head Mathematical Scientists Travelling Scholarship (Australian Academy of Science): 2015.

Australian Mathematical Society Lift-off Travelling Fellowship (Australian Mathematical Society): 2014.

Bernhard Neumann Prize – honourable mention (Australian Mathematical Society): 2012.

Australian Postgraduate Award (Australian Federal Government, Department of Education): 2009.

Summer Vacation Scholarship (University of Melbourne): 2007, 2008.

Referee for *Journal of Differential Geometry*, *International Mathematics Research Notices*, *SIGMA* and *Conformal Geometry and Dynamics*.

Reviewer for *zbMATH (Zentralblatt MATH)*.

Seminar organizer at Tsinghua University:

YMSC GeoTop! seminar group (2021-2022 Fall) – with Weiyan Chen and Jianfeng Lin (weekly talks, simultaneously on-campus and online, for past recordings click here).

YMSC Topology! seminar group (2021-2022 Spring) – with Weiyan Chen, Yi Jiang and Jianfeng Lin (weekly talks, simultaneously on-campus and online, for past recordings click here).

Seminar organizer at the University of Melbourne:

Mirror Symmetry reading group (2013–2014).

Weil Conjectures reading group (2012).

Melbourne University Mathematics and Statistics society (MUMS) President, 2008–2009.

Teaching and Mentorship

Postdoc mentor for Sangsan Warakkagun (BIMSA), 2022–current.

Doctoral advisor for Chen Xiao (Tsinghua University), 2020–current, Excellent TA award.

Teaching:

YMSC Course *Riemann Surfaces — a Hyperbolic approach*, 2019-2020 Fall, not evaluated.

Departmental Course *Calculus A2 (Eng)*, 2019–2020 Spring, Evaluation score: 82.12.

Departmental Course *Calculus C1*, 2020–2021 Fall, Evaluation score: 89.06.

Departmental Course *Calculus C2*, 2020–2021 Spring, Evaluation score: 92.98.

Departmental Course *Calculus C1*, 2021–2022 Fall, Evaluation score: 90.47.

Departmental Course *Calculus C2*, 2021–2022 Spring (current semester).

University of Melbourne departmental tutor for: Complex Analysis (2014), Real Analysis (2014, 2015), Accelerated Mathematics 1(2009, 2010, 2012 and 2013, 2015), Group Theory and Linear Algebra (2009), Calculus 2 (2008).

Replacement tutor for: Geometry (2013), (Masters-level) Complex Analysis (2013).

Administrative Accomplishments

Departmental Calculus C Teaching group leader, 2021-2022 Fall.

Interviewer for both international PhD student applicants, Departmental PhD applications and Qizhen College applicants.

Workload record is included in a separate document.

Academic References

Prof. Athanase Papadopoulos
IRMA (University of Strasbourg)
papadop@math.unistra.fr

Greg McShane
University of Grenoble (Institut Fourier)
greg.mcshane@ujf-grenoble.fr

Prof. Robert C. Penner (R  ne Thom Chair)
Institut des Hautes   tudes Scientifiques
berto.penner@gmail.com

Prof. Scott A. Wolpert (Department Chair)
The University of Maryland
swolpert@math.umd.edu