

Xinran Yu

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Education

University of Illinois at Urbana-Champaign , Illinois Ph.D. in Mathematics MS in Mathematics, May 2019	2017–present
University of Liverpool , Liverpool, United Kingdom BSc in Mathematics (with Honors), June 2017 Thesis: <i>Analytic Continuation and Riemann Surfaces</i> . Supervisor: Dr. Jon Woolf.	2015–2017
Xi'an Jiaotong-Liverpool University , Suzhou, China BSc in Applied Mathematics, June 2017	2013–2015

Teaching & Mentoring

Teaching Assistant , <i>University of Illinois at Urbana-Champaign</i>	2019–present
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Teaching

Stand-alone Math231 Calculus II, Spring 2022
Discussion Math241 Calculus III, on [List of Teachers Ranked as Excellent by Their Students \(Fall 2021\)](#)
Discussion Math231 Calculus II, on [List of Teachers Ranked as Excellent by Their Students \(Spring 2021\)](#)
Tutor Math286 Introduction to Differential Equation Plus, Fall 2020

Grading

Math402 Non Euclidean Geometry, Fall 2023
Math403 Euclidean Geometry, Fall 2023
Math423 Differential Geometry, Fall 2023
Math518 Differentiable Manifolds I, Fall 2023
Math519 Differentiable Manifolds II, Spring 2023
Math541 Functional Analysis, Spring 2023
Math553 Introduction to Partial Differential Equations, Spring 2023
Math416 Abstract Linear Algebra, Fall 2022
Math512 Abstract Algebraic Geometry, Fall 2022
Math514 Complex Algebraic Geometry, Fall 2022
Math525 Algebraic Topology I, Spring 2021
Math417 Introduction to Abstract Algebra I, Spring 2020
Math418 Introduction to Abstract Algebra II, Spring 2020
Math417 Introduction to Abstract Algebra I, Fall 2019
Math489 Dynamics & Differential Equations, Fall 2019

Graduate Team Leader at Illinois Geometry Lab , <i>University of Illinois at Urbana-Champaign</i> Faculty mentor: Katelyn Leisman.	Fall 2019
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Project: [Simulating Multi-Soliton Solutions to NLS and KdV and Studying Interactions](#)

- Our team focused on the nonlinear Schrödinger (NLS) equation with nonzero boundary condition and studied the exact solution of a one-soliton solutions. We compared the solution of those with zero boundary condition, and used Python to generate figures and animations for the solution.

- Duty – Held weekly meetings and provided Python and L^AT_EX supports to the team.
 - Supervised on the [mid-semester presentation](#) and [the open house event](#)
 - Helped the team to formulate [final report](#).

Talks

The fractional Laplacian through Dirichlet problem formulation Graduate Geometry and Analysis Seminar at UIUC	Feb 2024
Introduction to Lovelock metrics Graduate Geometry and Analysis Seminar at UIUC	Nov 2023
The ambient obstruction tensor Graduate Geometry and Analysis Seminar at UIUC	Feb 2023
Introduction to Einstein-Maxwell equations Graduate Geometric Analysis Seminar at UIUC	Oct 2022
The Rrenormalized Volume of Conformally compact Einstein Manifolds Graduate Geometric Analysis Seminar at UIUC	Oct 2022
Einstein Filling on Hyperbolic Ball Graduate Analysis Seminar at UIUC	Feb 2022
The Yamabe Problem Graduate Geometry and Topology Seminar at UIUC	Apr 2021

Honors & Awards

Ruth V Shaff & Genevie I. Andrews Fellowship , <i>University of Illinois at Urbana-Champaign</i> Mathematics department fellowship	Spring 2024
Wills Prize in Mathematics , <i>University of Liverpool</i> Special honor in the examination for the degree of bachelor of science with honors.	Jul 2017
IMA Prize , <i>University of Liverpool</i> Outstanding performance in the final year, offered by the Institute of Mathematics and its Applications.	Jul 2017
University Academic Achievement Award , <i>Xi'an Jiaotong-Liverpool University</i> Top 10% of the program.	2014–2015

Skills

Python & R

- Attended PI4 Bootcamp and did a project regarding [goodreads book analysis](#).
- Simulated solutions of a Nonlinear Schrödinger Equation and generated graphics for the solutions.

Mathematica

Services & Enrichment

International TA Panel Panelist, *University of Illinois at Urbana Champaign*

Aug 2022

Discussing language requirements and how TA practices are different in the US compared to foreign countries.

Staff-Student Liaison Committee Member, *University of Liverpool*

2016–2017

Worked as a course representative. Offered student perspective on the Mathematics department and contributed to improvements of the department.