

# Jeremiah Isu

(405) 981-8596 | [isujeremiah@ou.edu](mailto:isujeremiah@ou.edu) | [injeremiah-isu](https://www.linkedin.com/in/jeremiah-isu)  
PHSC 916, University of Oklahoma, 73019, Norman, OK

## EDUCATION

- **Doctor of Philosophy, Mathematics** *In progress*  
*University of Oklahoma* Norman, Oklahoma
  - Advisor: Dr. Javier Chavez-Dominguez
  - Research area: Quantum Information Theory
- **Master of Arts, Mathematics** *May 2024*  
*University of Oklahoma* Norman, Oklahoma
- **Bachelor of Science, Mathematics** *June 2018*  
*University of Port Harcourt* Port Harcourt, Nigeria

## RESEARCH

My research interest is in quantum information theory. Currently, I am working on advancing the theory of quantum channels. I am also interested in quantum computation and its applications.

Papers in Preparation:

1. *Phase Retrievability of Quantum Channels on States of Higher Rank*
2. *On the Stability of Phase Retrieval of Quantum Channels*

## CERTIFICATIONS

- **Basics of Quantum Information** *June 2025*  
*Certificate was issued by IBM*
- **Python Data Structures** *April 2021*  
*University of Michigan*
- **Programming for Everybody (Getting Started with Python)** *March 2021*  
*University of Michigan*

## PROFESSIONAL EXPERIENCE

- **Graduate Teaching Assistant** *August 2021 - Present*  
*University of Oklahoma* Norman, Oklahoma

Courses taught as instructor of record:

  - MATH 1005 - Mathematical Reasoning (Fall 2025)
  - MATH 2924 - Differential and Integral Calculus II (Summer 2025)
  - MATH 1743 - Calculus I for Business, Life and Social Sciences (Spring 2025)
  - MATH 1643 - Functions and Modeling for Business, Life and Social Sciences (Fall '24 & '23, Summer '24)
  - MATH 1503 - College Algebra (Fall 2022)

Discussion sections led:

  - MATH 1823 - Calculus and Analytic Geometry I (Spring 2022)
  - MATH 2924 - Differential and Integral Calculus II (Spring 2024)

Courses graded:

  - MATH 3333 - Linear Algebra (Fall 2021)
  - MATH 4193/5103 - Introductory Mathematical Modeling/Mathematical Models (Spring 2025)
- **Directed Reading Program Mentor** *October 2025-Present*  
*Department of Mathematics, University of Oklahoma (OU)* Norman Oklahoma

Undergraduate students I currently mentor:

  1. Jiawen Li - Learning Quantum Information Theory and Quantum Computation
  2. John Hernandez - Learning Functional Analysis

## TALKS & PRESENTATIONS

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- **A Gentle Introduction to Quantum Channels and Quantum Measurements II** October 2025  
*Student Analysis Seminar, Department of Mathematics OU*
- **A Gentle Introduction to Quantum Channels and Quantum Measurements I** September 2025  
*Student Analysis Seminar, Department of Mathematics OU*
- **Phase-retrievability of Quantum Channels** July 2025  
*SIMath Summer School at IBM Yorktown*
- **Symmetry Groups of a Finite Frame** September 2024  
*Frames Theory Seminar, Department of Mathematics OU*
- **Discrete Dynamical Systems: A Gentle Introduction** May 2024  
*Student Analysis Seminar, Department of Mathematics OU*

## CONFERENCES AND SCHOOLS ATTENDED

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- **Principled Scientific Discovery with Formal Methods** July 2025  
*SIMath Summer School 2025 at IBM Yorktown, New York*
- **Sums of Squares Method in Geometry, Combinatorics and Optimization** August 2022  
*MSRI/BIRS Graduate Summer School at University of British Columbia, Okanagan, Canada*
- **Texas-Oklahoma Representations and Automorphic(TORA) forms XI** April 2022  
*TORA at Oklahoma State University*

## AWARDS & SCHOLARSHIPS

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- **Harold Huneke Endowed Scholarship for the 2025-2026 academic year** May 2025  
*Department of Mathematics, OU*
- **Harold Huneke Endowed Scholarship for the 2024-2025 academic year** April 2024  
*Department of Mathematics, OU*
- **Nancy Scofield Hester Mathematics Scholarship for the 2023-2024 academic year** April 2023  
*Department of Mathematics, OU*

## SERVICE

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- **Member, Directed Reading Program Committee** September 2025 - Present  
*Department of Mathematics, OU*
- **Organizer, Student Analysis Seminar** February 2025-Present  
*Department of Mathematics, OU*
- **Vice President Math Graduate Students Association** August 2024- May 2025  
*Department of Mathematics, OU*
- **First Year Representative in the Graduate Advocacy Committee** August 2021-May 2022  
*Department of Mathematics, OU*