

General O. Ozochiawaeze

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EDUCATION

Purdue University Ph.D. in Mathematics (Inverse Problems, PDEs, Applied Analysis) Advisors: Isaac Harris & Peijun Li	Aug 2021 – May 2027
New Jersey Institute of Technology M.S. in Applied Mathematics	May 2021
Rutgers University B.A. in Mathematics	May 2018

PROFESSIONAL EXPERIENCE

Purdue University Applied Researcher (Inverse Problems & Wave Imaging) - Advanced non-iterative imaging methods for recovering hidden structures from indirect wave measurements, with applications to biharmonic scattering and nondestructive evaluation. - Implemented and benchmarked reconstruction methods in MATLAB, assessing stability across measurement noise, obstacle geometries, and limited-data configurations. - Presented research findings at national and international conferences, communicating technical results on wave-based imaging to audiences in applied mathematics and engineering.	2023 – Present
MIT Lincoln Laboratory Signal Processing Research Intern - Engineered sparse-data SAR reconstruction methods using compressive sensing to recover targets from undersampled radar measurements. - Assessed sonar array localization under signal degradation, quantifying sensitivity, robustness, and failure modes across acoustic sensing configurations. - Applied numerical signal-processing techniques in MATLAB and Python to analyze radar and acoustic sensing data and evaluate reconstruction performance.	2022 – 2023
New Jersey Institute of Technology Research Assistant - Formulated acoustic wave propagation models in heterogeneous media using finite element and domain decomposition methods, investigating scattering behavior in high-frequency regimes. - Investigated the influence of material parameters and geometric configurations through computational simulations of wave propagation and scattering.	2020 – 2021

TEACHING & SERVICE

Lecturer, Purdue University MA 16020 — Applied Calculus II	2025
Teaching Assistant, Purdue University MA 527; STAT 416; MA 261; MA 161; MA 162	2021–2024
Instructor & Tutor, Accel Learning AMC–AIME Preparation, Mathematics, Writing; Grades 6–12	2020–2021
Mathematics Instructor, Mathnasium Mathematics instruction and tutoring; Grades 6–12	2018–2019

PUBLICATIONS & PREPRINTS

- G. Ozochiawaeze and I. Harris, “Factorization method for a clamped obstacle from near-field measurements via a far-field transformation,” arXiv:2609.20528
- I. Harris and G. Ozochiawaeze, “Novel implementation of the extended sampling method for inverse biharmonic scattering,” arXiv:2605.12367
- R. Ceja Ayala, I. Harris, and G. Ozochiawaeze, “Factorization method for the biharmonic scattering problem for an absorbing penetrable scatterer,” *Communications on Analysis and Computation*, 9 (2026), 16–39. DOI: 10.3934/cac.2026010
- I. Harris, P. Li, and G. Ozochiawaeze, “Sampling methods for the inverse cavity scattering problem of biharmonic waves,” *Inverse Problems*, 42 (2026), 015002.

AWARDS & HONORS

Bilsland Dissertation Fellowship (2026–2027) SIAM Travel Grant (2025) GEM Fellowship (2022–2023) Graduate C/Startup Grant (2020–2021) Tau Sigma Honors Society