ISABEL BARRIO SANCHEZ

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EDUCATION

University of Pittsburgh. **Ongoing, expected completion May 2026**

Ph.D. in Mathematics.

Research area: Numerical Analysis and Scientific Computing.

Areas of Interest: Fluid Structure Interaction, Computational Fluid Dynamics.

West Virginia University Institute of Technology **2017-2021**

Bachelor of Science in Mathematics.

Cumulative GPA: 4.0/4.0.

Minors: Computer Science, Economics.

College Athlete at the women's basketball team.

COMPUTER SKILLS

Languages: Python, MatLab, Java, C++. **Other**: FreeFem++, AMReX, HTML/CSS, UNIX.

WORK EXPERIENCE

Graduate Teaching Assistant - University of Pittsburgh **2021-present**

- Taught, graded, and led recitations for various courses in the Mathematics department.

Internship – Lawrence Berkeley National Lab **Summer 2023**

- 10-week research internship under Dr. Ann Almgren and Dr. John Bell at the Applied Mathematics and Computational Science Division of the Lawrence Berkeley National Lab.
- Published a journal article "A New Re-redistribution Scheme for Weighted State Redistribution with Adaptive Mesh Refinement".
- Contributed to the repository AMREX-Fluids/CAMR.

Assistant for the Computer Science Department – WVU Tech **2018-2021**

- Developed and led STEM camps and after-school programs for rural and high-poverty girls in Southern West Virginia. Presented my work at the 2020 ASEE Conference.
- Received grants from NCWIT to develop these programs.

Math-to-Industry Bootcamp – University of Minnesota **Summer 2024**

- Learned fundamentals of data science, machine learning, optimization, using R and Python.
- Collaborated on a final project with General Electric on CT image reconstruction and denoising algorithms.

RESEARCH AND PRESENTATIONS

- I. Barrio Sanchez, A. S. Almgren, J. B. Bell, M.T. Henry de Frahan, W. Zhang, "A new Re-redistribution Scheme for Weighted State Redistribution with Adaptive Mesh Refinement", 2024, Journal of Computational Physics. Presented at AWM Student Seminar (Link)
- "Second-order partitioned algorithms with subiterations." 11th Graduate Student Conference, Clemson University, April 20th, 2024.
- A. Naz, M. Lu, C. Broyles, I. Barrio Sanchez, "Competition of VEX Educational Robotics to Advance Girl's Education (COVERAGE)", June 2020, 2020 ASEE Virtual Annual Conference.

Work authorization: Eligible to work in the United States under OPT for 36 months.