Judith Gonzalez Sorribes

Profile

A highly skilled researcher with expertise in photonics, ultracold quantum gases, and experimental physics, recently graduated with a Master of Science in Photonics from the Universitat Politècnica de Catalunya. Interested in developing and constructing precise optical instrumentation for advancing technologies across various applications.

Contact details

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Barcelona

Languages

English: Professional

Spanish: Native

Catalan: Native

Conferences

Judith Gonzalez Sorribes, Peter Engels, and Maren Mossman, "Rarefaction waves and channel turbulence in a superfluid dam-breaking experiment", DAMOP 2023. (Poster)

Judith Gonzalez Sorribes and Maren Mossman, "Building a Magneto-Optical Trap", SPS 2022 Physics Congress, 2022. (Poster)

Judith Gonzalez Sorribes, Lee Lennon, Danielle Smith, and Maren Mossman, "A new ultracold quantum gas experiment at the University of San Diego", DAMOP, 2022. (Poster)

Hobbies

- Club Muntanyenc L'Hospitalet
- Colla Jove de Castellers i Grallers de L'Hospitalet
- Football

Experience

Postgraduate Researcher 2023 - 2024
Ultracold Quantum Gases Group at ICFO *Castelldefels, Spain*
◇ Design and build an optical setup to couple the laser to a low-finesse Fabry-Pérot cavity.
◇ Provide a stable environment for an optical cavity by reducing vibrations with a vibrational isolation stage.
◇ Design and build an isolation box for acoustic isolation and temperature stabilization of an optical cavity.
◇ Design and test the optical setup for actively cancel the phase noise introduced by the optical fibers using an interferometric scheme.

Post-Baccalaureate Research Scholar 2022 - 2023
Dr. Mossman's Lab at USD *San Diego, USA*
◇ Design and build the opto-mechanical laser-cooling setup for Rb-87, the opto-mechanical setup for the high-power laser, and the 2D magneto-optical trap optics at the ultra-high vacuum system.
◇ Experimentally investigate the dam breaking problem in an elongated Rb-87 Bose-Einstein condensate.
◇ Help to assemble an ultra-high vacuum system for degenerate quantum gases.

Undergraduate Research Assistant 2021 - 2022
Dr. Mossman's Lab at USD *San Diego, USA*
◇ Model and optimize the magnetic field coils of the 3D magneto-optical trap using Python.
◇ Characterize power outputs of coils to determine the water-cooling requirements for the coils.
◇ Solder and build voltage-controlled oscillators drivers to control acousto-optic modulators in the optics setup.

Education

Master of Sciecne in Photonics 2023 - 2024
Universitat Politècnica de Catalunya

Europhotonics Sring School 2024
Tampere University

DQ-mat Summer School in Quantum States of Matter 2023
Leibniz University Hannover

Bachelor of Science in Physics 2020 - 2022
University of San Diego

Coursework in Engineering Physics 2018 - 2020
Chicago State University

Skills

- Knowledge of and experience with complex optical systems.
- Able to solder, read electronic schematics, and build enclosures.
- Direct experience running and troubleshooting lab instruments.
- Abilities on communication, time management, and team collaboration.
- Proficient in Python, SolidWorks, Autodesk Inventor, OSLO EDU, Excel, and LaTeX.

Awards

SPIE@ICFO Maria Yzuel Fellowship Award - ICFO 2023-2024
DAMOP Student Travel Award - USD 2022
NCAA Division I Soccer Full-Ride Scholarship - USD 2020 - 2022
CRC Press Chemistry Achievement Award - CSU 2019
Sophomore Honor Society - CSU 2019
NCAA Division I Soccer Scholarship - CSU 2018 - 2019