

Aikun Wang

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EDUCATION

Emory University

Atlanta, GA

B.S. in Physics & Engineering Science

Minor in Astrophysics | Cumulative GPA: 3.90/4.0

RESEARCH EXPERIENCE

Emory University | Eric Weeks Soft Matter Lab

Atlanta, GA

Undergraduate Researcher | Experimental & Computational Physics

Jan 2025 - Present

- Designed and fabricated L-shaped, quasi-2D microfluidic chambers to investigate transport and collective dynamics of highly polydisperse silicone oil-in-water emulsions under geometric confinement.
- Developed a Python image-analysis and particle-tracking pipeline integrating Cellpose segmentation, size-aware trajectory linking, spatiotemporal velocity-field estimation, and forecast-assisted retracking; processed approximately 4.5 million droplet-frame observations to reconstruct individual trajectories.
- Quantified size-dependent transport, local area fraction, velocity distributions, and nonaffine dynamics to examine how droplet size and crowding influence collective flow and microscopic rearrangements.
- Observed greater nonaffine motion in smaller droplets and a pronounced change in normalized speed when droplet diameter approaches the chamber height; found that increased local crowding reduces speed differences between droplet sizes.
- Delivered an oral presentation at the 2026 Global Physics Summit in Denver; confirmed to present at the 2027 Global Physics Summit in Atlanta. Regularly share progress in lab meetings and contribute to a manuscript in preparation.

OpenRefinery

STEM Research Program Participant | AI for Science

Oct 2026 - Present

- Participating in the AI for Science initiative to explore AI applications in real-world STEM research workflows, with a focus on experimental soft condensed matter physics.
- Contributing domain knowledge in microfluidics, microscopy-based particle tracking, and computational data analysis to interdisciplinary efforts connecting scientific research and AI development.

Chinese Virtual Observatory | Popular Supernova Project

Researcher

May 2022 - Feb 2025

- Independently analyzed more than 6,000 astronomical images and reported over 50 suspicious objects during a three-year observing period.
- Discovered a previously unknown variable star in NGC 3238; further investigation is ongoing.

CONFERENCE PRESENTATIONS

Quasi-2D means a little bit 3D: Size-dependent droplet speeds in flowing quasi-2D emulsions

Aikun Wang, Waad Paliwal, and Eric R. Weeks

2027 Global Physics Summit | Atlanta, GA | Confirmed; forthcoming

Nonaffine motion of highly polydisperse emulsions in a quasi-2D L-shaped chamber

Aikun Wang, Waad Paliwal, and Eric R. Weeks

2026 Global Physics Summit | Denver, CO | Oral presentation; presented

PROFESSIONAL AND LEADERSHIP EXPERIENCE

Emory University College Council

Vice President

Atlanta, GA

Mar 2025 - May 2026

- Led allocation of a \$500,000+ annual student activities budget supporting more than 200 undergraduate organizations. Developed funding strategies across annual Allocated and monthly Supplementary cycles to balance organizational needs, equitable access, and campus engagement.
- Managed an eight-member team responsible for financial reviews, club interviews, and funding recommendations. Structured evaluations around budget audits, quantitative analysis, and interviews to assess operational needs, spending efficiency, and projected campus impact.
- Collaborated with the Finance team on policy refinements and more efficient budget hearings to improve students' access to university resources.

Pocket Aces Trading

Co-founder & Lecturer

Nov 2024 - Present

- Mentored more than 30 members in algorithm design and backtesting with real-world financial data, emphasizing strategy implementation and risk assessment. Delivered biweekly lectures and organized panels with professionals and professors on careers, market trends, and emerging technologies.
- Developed and tested a machine-learning strategy using CSCO signals to predict ORCL price movements; achieved 63% simulated PnL in backtesting.

HONORS

Bronze Medal, Global Rank 11 Physics Unlimited Explore Competition	2024
Global Silver Award British Physics Olympiad Senior Physics Challenge	2023
National Silver Award Physics Bowl	2023
Distinction Award Duke Math Meet	2022

ADDITIONAL INFORMATION

Languages English; Mandarin (native)

Technical skills Python, Verilog, Blender, IDL

Certifications AOPA and CAAC certified drone pilot; certified 500px photographer

Interests Soccer (Emory Chinese Soccer); badminton (city team)