# NSF NRT Penn — Interdisciplinary Training in Data Driven Soft Materials Research and Science Policy

University of Pennsylvania

**"An integrated program that equips trainees to advance soft materials research using Autonomous Experimentation (AE) and positions them to make impactful contributions beyond the lab through science policy."**

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## SOFT MATTER AE RESEARCH

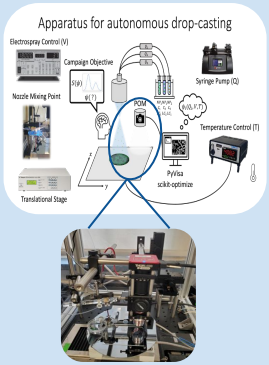



**Figure 1.** Workflow for autonomous sample preparation. Work by Yvonne Zagzag and Dr. Chinedum Osuji **Insert:** Experimental system, Polarized Optical Microscopy (POM)

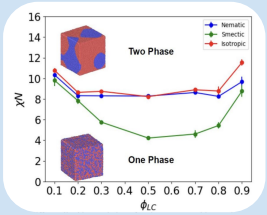



**Figure 2**. Simulation of phase diagram for liquid crystal mixtures. Work by Gabriel Vega-Bellido and Dr. Robert Riggleman

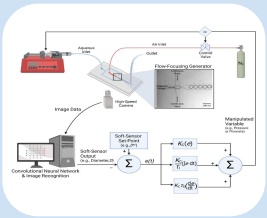


**Figure 3**. ML-based control of micro-fluidics. Work by Owen Land, Dr. Lee, and Dr. Seider

**SOFT AE BY THE NUMBERS**

32 Research talks
16 Trainees
13 Research labs
7 External partnerships
5 Publications
4 Academic programs

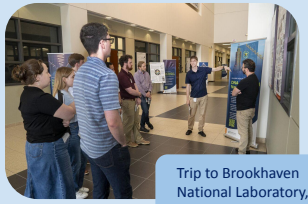
Over the past year, trainees have been active in AI/ML soft matter research and have participated in professional development & outreach opportunities.

## TRAINEE ACTIVITIES

Soft AE Symposium, May 2024, Philadelphia, PA

Coding Bootcamp with UPR students, Feb 2024, Virtual/Puerto Rico

Science Outside the Lab, May 2024, Washington DC



Trip to Brookhaven National Laboratory, Aug 2024, Upton, NY

RESEARCH & EVALUATION GROUP at PHMC | Kleinman Center for Energy Policy | Center for Soft and Living Matter at the University of Pennsylvania | Penn Engineering | Penn Arts & Sciences | Weitzman School of Design

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