Dr. Iris Kinzie Mowgood

Computational Physicist and Physics Lecturer

Personal Data

Research Interests: Computational Physics, Superconductivity, the time-dependent Ginzburg-Landau Equations, and Physics Education.
Location: Orange, California, USA | U.S. Citizen | Language: English - Native Speaker
Website: irismowgood.com
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Scientific Education

2023	PhD, Computational and Data Sciences Chapman University Orange, CA USA
2016	M.Sc, Physics California State University, Fullerton Fullerton, CA USA
2013	B.Sc, Physics Education University of California, Santa Cruz Santa Cruz, CA USA

Publications:

ORCID ID: 0000-0003-3514-5122

Ph.D. Thesis: Computational Modeling of Superconductivity from the Set of Time-Dependent Ginzburg-Landau Equations for Advancements in Theory and Applications

S. Chahid, S.Teknowijoyo, **I. Mowgood**, and A. Gulian "High-Frequency Diode Effect in Superconducting Nb3Sn Microbridges." *Physical Review B*, vol. 107, no. 5, (Feb. 2023) ‹https://doi.org/10.1103/physrevb.107.054506.›

I. Mowgood, S. Chahid, S.Teknowijoyo, and A. Gulian *"Phase-Slip Centers as Cooling Engines" Arxiv cond-mat.supr-con*, (Nov. 2022) ‹https://doi.org/10.1103/physrevb.107.054506.›

I. Mowgood, G. Melkonyan, R. Dulal, S. Teknowijoyo, S. Chahid, and A. Gulian *"Violation of Magnetic Flux Conservation by Superconducting Nanorings." Superconductor Science and Technology*, vol. 35, no. 4, (Feb. 2022), p. 045006, https://doi.org/10.1088/1361-6668/ac4174.

A. Gulian, J. Foreman, V. Nikoghosyan, L. Sica, P. Abramian-Barco, J. Tollaksen, G. Melkonyan, **I. Mowgood**, C. Burdette, R. Dulal, S. Teknowijoyo, S. Chahid, and S. Nussinov *"Gravitational Wave Sensors Based on Superconducting Transducers." Physical Review Research*, vol. 3, no. 4, (Nov. 2021), https://doi.org/10.1103/physrevresearch.3.043098.

Research and Teaching Experience

In Person: Summers, 2019 and 2022	Research Assistant, Advanced Physics Laboratory Burtonsville, MD USA
Remote: Jun. 2018 - Jun. 2023	Research Assistant, Advanced Physics Laboratory Burtonsville, MD USA
since Sept. 2016	Adjunct Physics Lecturer, Chapman University Orange, CA USA
Sept. 2016 - June 2018	Adjunct Physics and Astronomy Lecturer, Orange Coast College Costa Mesa, CA USA
Jan. 2018 - current	Adjunct Physics and Astronomy Lecturer, Local colleges: Cypress College, Cal State Fullerton, Golden West College, Santa Ana College, Santiago Canyon College

Conferences

Presenter	APS March Meeting Las Vegas, NV USA 2023
Presenter	8th International Workshop on Numerical Modelling of High Temperature Superconductors Nancy, France 2022
Attendee	New Directions in Function Theory: From Complex to Hypercomplex to Non-Commutative Orange, CA USA 2019
Presenter	COMSOL Conference Boston, MA USA 2019
Attendee	APS March Meeting Boston, MA USA 2019
Attendee	PIMan Workshop Orange, CA USA 2019
Attendee	APS Far West Fall Meeting Fullerton, CA USA 2018
Attendee	7th International Workshop on Quantum Simulation and Quantum Walks Orange, CA USA 2018

Software Mastery and Additional Skills

COMSOL Multiphysics	Mathematical Module Modeling 5 Year
MATLAB	Automation, Mathematical Modeling, and Data Analysis: 8 Year
3D Printing	FDM and CAD Modeling 7 Year
Adobe Suite	Photoshop and Premiere Pro 8 Year
Python, R, and HTML	Mathematical Modeling, Data Analysis, and Website Building 4 Year
Instructional Design	Lab Design and Instructions, Computational Tutorials, and Automation Tutorial 8 Year