

Dr. Iris K. Mowgood

Email: irismowgood@gmail.com **Website:** www.irismowgood.com **Location:** Orange, CA USA

Education

Chapman University

Ph.D., Computational and Data Sciences, 2023

California State University, Fullerton

M.Sc., Physics, 2016

University of California, Santa Cruz

B.Sc., Physics Education, 2013

Dissertation

“Computational Modeling of Superconductivity from the Set of Time-Dependent Ginzburg-Landau Equations for Advancements in Theory and Applications.”

Available for viewing on Chapman University Digital Commons.

Computational models of superconductors from low to high dimensions that were published during my PhD with methods for implementing the set of time-dependent Ginzburg-Landau Equations into COMSOL Multiphysics® detailed.

Research

Advanced Physics Laboratory, Institute for Quantum Studies

PhD Research Assistant, Remote: 2018-2023

In-Person: (Burtonsville, Maryland) Summers of 2019 and 2022

Publications

ORCID ID: 0000-0003-3514-5122

I. Mowgood, S. Chahid, S. Teknowijoyo, and A. Gulian

“*Phase-Slip Centers as Cooling Engines*”

Optical Memory and Neural Networks, vol. 32, no. 3 (Dec. 2023)

<https://doi.org/10.3103/s1060992x23070147>

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, 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>

Work Experience **School of Arts and Sciences, Concordia University Irvine**
Assistant Professor of Physics
and VyC HSI STEM Program Director, 2024-Current

Physics Department, Chapman University
Lecturer, 2016-2023

Physics and Astronomy Department, Orange Coast College
Lecturer, 2016-2018

Languages and Skills English (native), COMSOL Multiphysics[®], MATLAB[®], Adobe Suite
Python, R, HTML, Instructional design

Conferences **Hispanic Association of Colleges and Universities**
14th Annual International Conference - 2024
Attendee, Salamanca, Spain

19th Annual American Association of Hispanics in
Higher Education Conference - 2024
Attendee, St. Louis, MO USA

APS March Meeting - 2023
Presenter, Las Vegas, NV USA

8th International Workshop on Numerical Modelling
of High Temperature Superconductors - 2022
Presenter, Nancy, France

COMSOL Conference - 2019
Presenter, Boston, MA USA

APS March Meeting - 2019
Attendee, Boston, MA USA

New Directions in Function Theory: From Complex to
Hypercomplex to Non-Commutative - 2019
Attendee, Orange, CA USA

PIMan Workshop - 2019
Attendee, Orange, CA USA

APS Far West Fall Meeting - 2018
Attendee, Fullerton, CA USA

7th International Workshop on Quantum Simulation
and Quantum Walks - 2018
Attendee, Orange, CA USA