

EDUCATION

M.S. in Chemistry
Oakland University, April 2022

Coursework

Total semester hours by category:

Chemistry – 15, Physics – 12, Research – 8, Env Science – 3

Primary fields of study (23 semester hours):

quantum, radiation, and theoretical chemistry and physics.

Thesis

Bishop, C. (2022). An ESR Study of Acyclovir, Penciclovir, and Ganciclovir as DNA Model Compounds [Unpublished master's thesis]. Oakland University.

- Photoexcited states of radical species in supercooled, aqueous glasses.
- γ -irradiation followed by 405 nm, 640 nm, and/or broad-spectrum visible photolysis.
- CW-ESR spectroscopy with supporting theoretical/computational work.

Publication

Adhikary, Kumar, A., Bishop, C. T., Wiegand, T. J., Hindi, R. M., Adhikary, A., & Sevilla, M. D. (2015). π -Radical to σ -Radical Tautomerization in One-Electron-Oxidized 1-Methylcytosine and Its Analogs. *Journal of Physical Chemistry B*, 119(35), 11496–11505. <https://doi.org/10.1021/acs.jpcc.5b05162>

Certificate

In Progress, Jan. 2023 – Apr. 2024

Professional Graduate Certificate in Programming
Harvard University, Harvard Extension School
four-course/16 semester hours

PROGRAMMING EXPERIENCE

Paid Experience: Linux shell and systems, Matlab, Python, HTML

Personal Projects: github.com/ctbishop/easyimon – C, Bash
casandrabishop.com – HTML, CSS, Javascript

RECENT EMPLOYMENT

ASIAA - CHIME Fast Radio Burst Outrigger Hawaii Project

ASIAA Research Assistant | full-time | May 2022 – Sept., 2022 | Separation: program/op. needs

Data analysis during early stage of UHF-band radio (400-800 MHz) astronomical research project, including scripting (Matlab, Python) and reporting. Carried out site suitability testing for prospective science location and drafted written report of tools, methods, and findings. Developed and completed software utility for post-processing, visualization, and statistical analysis of raw acquisition data from observations with telescope prototype.

ASIAA - Yuan-Tseh Lee Array Project

Telescope Test/Operator | full-time | Mar. 2019 – Nov. 2021 | Separation: project defunded

Overnight operation of large terrestrial telescope at high altitude (11,000 ft) for high-redshift carbon monoxide intensity mapping in microwave W-band (86-102 GHz), normally alongside one co-worker but rarely independently. Work primarily on Linux systems for system preparation and calibration as well as astronomical tracking, scanning, pointing, and off-set observations. Record-keeping, troubleshooting of hardware/software issues, and scripting (Python, HTML). Data evaluation and reduction with drafting of associated manual.

Maunakea Visitor Information Station

Interpretive Guide | full-time | May 2018 – Oct. 2018 | Separation: voluntary

Acted as a primary source of visitor educational and safety guidance on Maunakea. At night, independently led laser-guided star talks (5-50 people) and worked with team and volunteers to host weekly astronomy outreach program (20-80 people).