

Patricia Poths

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Education:

- 2018- University of California, Los Angeles, USA**
First year graduate student with a focus in Theory/Computation
- 2014- Imperial College London, United Kingdom**
2018 Four-year course with an integrated independent research Masters project in the final year. Chemistry with Molecular Physics degree, with advanced courses such as Complexity, Advanced Mathematical Methods, Soft Condensed Matter, and Advanced Interfacial Science. Graduated with a First-Class Degree (4.0 GPA equivalent).
- 2006- Vienna International School, Austria**
2014 International Baccalaureate Diploma;
42/45 points (98th percentile)
Higher Level Courses: Chemistry, Physics, English Lit., German B.
Standard Level Courses: Mathematics, Psychology
A in Theory of Knowledge.

Research Experience:

MSci Project with Prof. John Seddon and Prof. Fernando Bresme *October 2017-May 2018*

- Joint computational and laboratory-based project in membrane biophysics, exploring the phase behavior of fatty acid-phosphatidylcholine mixtures with simulation and experiment. Involves the use of GROMACS Molecular Dynamics modelling, as well as Differential Scanning Calorimetry, Polarizing Light Microscopy, and X-ray analysis. Emphasis on the computational aspect.

International Atomic Energy Agency (IAEA) Internship with Roman Padilla-Alvarez

July-September 2017

- Took part in a research project working on the characterization of the interaction volume of confocal μ -X-ray fluorescence spectroscopy. Involved training with how to use μ -XRF and SEM-EDS, as well as Avizo 7 software for data analysis.
- Paper in the process of being published with supervisors

Undergraduate Research with the Haque Group, Imperial College London *July-August 2016*

- Undertook an independent research project for 8 weeks under Dr. Saif Haque, working on the environmental stability of lead perovskite thin films. This involved sample preparation with spin coating in a glove box, as well as sample characterization with UV-vis spectroscopy. Prepared a report, poster presentation, and group presentation about the outcomes of the project. The data processing was undertaken using Origin Pro.

Teaching Experience:

Teaching Assistant for 14A with Prof. Laurence Lavelle

October-December 2018

- Taught discussion 3 times a week for a total of over 80 students, gained experience preparing lesson plans, test questions and grading efficiently. Received positive TA evaluations overall.

Teaching Assistant for 20B with Prof. Thomas Mason

January-March 2019

- Taught discussion 3 times a week for a total of over 80 students, gained experience preparing lesson plans, test questions and grading efficiently.

Awards and Honors

Outstanding Overall Academic Performance (MSci) from Imperial College London *June 2018*

- Final year award awarded to students by examiners judged by the examiners to have performed outstandingly over the course of their degree.

Graduate Dean's Scholar Award from UCLA

April 2018

- Awarded upon start at UCLA for past academic achievements and future promise.

Skills:

Computational Skills

Experience using GROMACS for Molecular Dynamics modelling.
Experience with data processing and object-oriented programming in Python, optimizing molecular structure models using "Gaussian", LabVIEW for a simple experimental setup, and data processing using Origin Pro.
Experience using Gaussian to optimize geometries of small molecules.
Experience with LaTeX word processing.
Visual data processing with Avizo 7.
Experienced with MS Office.

Laboratory Skills

Fundamental synthetic skills in Organic and Inorganic Chemistry.
Analytical skills include UV-vis, NMR, IR, flash column chromatography and gas chromatography.
Experience working in a glove box, and spin-coating thin films.
Operational skills for confocal μ -XRF, SEM-EDX, differential scanning calorimetry, polarizing light microscopy.

Languages

Native English speaker, advanced German, and basic French.