

Anamaria Leonescu

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Education

PhD candidate in supramolecular chemistry, Department of Chemistry, University College London 2021 - 2025

EPSRC-UKRI fully funded Doctoral Training Programme; projects in computational chemistry and material synthesis

MSci and BA, Natural Sciences, University of Cambridge (First Class) 2017 - 2021

MSci modules: organic chemistry, polymers, catalysis

3rd Year modules: spectroscopy, organic and inorganic chemistry, quantum mechanics

2nd Year modules: organic, inorganic, physical and theoretical chemistry, mathematical methods

1st Year modules: chemistry, physics, materials science, mathematics

Technical skills

Python: visualisation and statistical tools incl. Pandas, NumPy, Seaborn, Matplotlib

Experience in Machine Learning incl. linear and logistic regression, NLP, neural networks (scikit-learn, TensorFlow)

Tools: Word, Excel, PowerPoint, ChemDraw, TopSpin, MestreNova, Mercury, PyMOL, SCIGRESS, Avogadro, RASPA

Research experience

PhD projects, Department of Chemistry, University College London 2021 - present

Computational (Ben Slater group): coordination cages crystal structure prediction using force fields, density functional theory, semiempirical methods

Experimental (Cally Haynes group): synthesis of coordination cages derived solids for enhanced purification of gases, characterization of the films obtained

Machine learning: both sets of data will be used to build a neural network to identify materials with similar properties

Master's Project, Nitschke group, Department of Chemistry, University of Cambridge Oct 2020 - Mar 2021

Dissertation (5000 words) investigating the host-guest chemistry of lower symmetry tetrahedral coordination cages

Conducted a literature review and used molecular modelling to determine potential candidates for distorted cages previously synthesised by the group; initial synthesis project changed due to COVID-19

Consulting on sustainable wood adhesives for the NaturLoop start-up, Switzerland July - Sep 2020

Reviewed different types of adhesives (geopolymers, bio-based, ionic liquids), and suggested research strategies for the company's vision and economic growth. Results were used by the R&D department

Research Project, Hunter group, Department of Chemistry, University of Cambridge June - Aug 2019

Synthesized monomers for template-coupling reactions aiming to trace the fundamental aspects of chemical evolution

Trained to use state-of-the-art synthesis and characterization (NMR, IR and LC/MS), worked independently for the second part of the project (5 weeks), with preliminary results used to design a Master's project

Produced a detailed report (16 pages) and presented my work in a group meeting

Research Project, Matache group, Department of Organic Chemistry, University of Bucharest June - Aug 2018

Synthesized novel diazines by oxidative cyclisation processes, characterized them using NMR, UV and fluorescence spectra. Results included in a PhD thesis in Bio-organic Chemistry

Awards

Scholar of Corpus Christi College, University of Cambridge (achievements in MSci and BA) Nov 2021

Corpus Christi College Grant for academic work during the summer June 2019, 2020

Lister Institute Grant for Summer Studentships June 2019

BP prize for the second highest result in the Chemistry examination June 2018

Silver medal (ranked 77/297), International Chemistry Olympiad, Thailand July 2017

Silver medal (ranked 4/36), International Tuymaada Olympiad, Chemistry section, Russia July 2016

Leadership and outreach

Research group social media officer Mar 2022 - present

Postgraduate student representative, Department of Chemistry, UCL Sep 2021 - present

Liaised with the logistic staff on students' welfare and organized monthly social gatherings (cca. 100 attendees)

Executive Committee of the University of Cambridge Environmental Consultancy Society Sep 2020 - Apr 2021

Contacted speakers, organized and delivered termly events for careers in the environmental sector via Zoom (cca. 60 attendees), improved social media reach by 50%

Third year representative, Department of Chemistry, University of Cambridge Nov 2019 - May 2020

Collected feedback from the other students, presented an overview to the Department's Teaching Committee, suggested possible changes to special assessments conditions (due to COVID-19)

Executive Committee of the Cambridge Romanian Society Dec 2018 - 2020

President (Jan - Dec 2020): designed and implemented a financial plan, liaised with the other societies, promoted the Eastern European culture by organizing weekly events (cca. 30 attendees)

Secretary (Jan - Dec 2019): organized internal meetings, logistics, sent weekly newsletters to the members (cca. 150)

The Cambridge 'CAMbassadors' Access Scheme Mar 2018 - Sep 2021

Organised outreach events at the University of Cambridge: open days, summer schools, workshops

Mentored high-school students about university admissions, spoke to groups (cca. 300 people) about STEM careers

Promoted to a Senior position (Oct 2019); delivered recruitment and training events to other students

Public speaking

Women in Supramolecular Chemistry networking panel talk chair Oct 2022

Soapbox Science London May 2022

Chemical and Physical Society PhD symposium Feb 2022

Chemistry Society Internships Event Oct 2019, 2020

Teaching

Postgraduate teaching assistant, UCL Sep 2021 - present

Demonstrated practical labs (organic synthesis, cca. 70 students), conducted weekly tutorials (organic, inorganic and physical chemistry, cca. 10 students each), marked reports, supervised workshops (cca. 200 students)

Tutor and Admissions Consultant for UK higher education Dec 2019 - present

Prepared students for admission to University in the UK (with a focus on Oxbridge)

Over 400 hours of tuition to date; contracted by Oxbridge Admissions, VIPtutors, UniAdmissions, MyMentor, Leading Education, Libra Education, IvyPrep, Top Academic

Services include: tutoring, mock interviews, personal statement editing, workshops, personalized resources, mentoring

Entrepreneurship

SPERO Doctoral Students Entrepreneurship Programme, UCL June - July 2022

Gained expertise on intellectual property, sales, business planning, risk assessment, marketing, finance

Designed the business plan and tested PhInD, a platform that helps academics navigate the job market

'Build your own business' accelerator programme Jan - Mar 2022

Third place in pitching competition, developed and tested the business plan for a mental health support platform

Languages

Romanian (Native Speaker); French (B1 level); Japanese (N5 level)