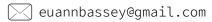
Euan Bassey

Post-Doctoral Research Fellow









+44 7794140030

RESEARCH & TEACHING EXPERIENCE

CENTRE DE RMN À TRÈS HAUTS CHAMPS DE LYON | MARIE SKŁODOWSKA-CURIE

FFLLOW

March 2025 - Present | Lyon, France

- → Affiliated with the research groups of Profs. Andrew Pell and Guido Pintacuda
- → Development of novel experimental and theoretical methods for the acquisition and assignment of nuclear magnetic resonance (NMR) spectra, using broadband NMR and cluster expansion techniques.

UNIVERSITY OF CALIFORNIA, SANTA BARBARA | POST-DOCTORAL RESEARCHER November 2022 - March 2025 | Santa Barbara, U.S.

- → Affiliated with the research groups of Profs. Anton Van der Ven and Raphaële Clément
- → Theoretical and experimental characterisation of Li- and Na-ion battery cathodes using operando magnetometry, NMR and electron paramagnetic resonance (EPR) spectroscopies; development of new statistical mechanics cluster expansion techniques for the prediction of materials' magnetic properties
- → Development of CASM software
- → Collaborations with multiple national and international institutions: Diamond Light Source; Institut Laue-Langevin and MagLab
- → Prepared and delivered lectures to undergraduates (Materials Science for Non-Science Majors) and graduates (Quantum Mechanics, Statistical Mechanics); held corresponding office hours

UNIVERSITY OF CAMBRIDGE | POST-DOCTORAL RESEARCHER

July 2022 - November 2022 | Cambridge, U.K.

- → Affiliated with the research group of Prof. Dame Clare Grey and Faraday Institution NEXGENNA team
- → Experimental and theoretical studies of Na-ion cathode materials, focusing on magnetic resonance techniques: NMR, EPR and magnetic property measurements

UNIVERSITY OF CAMBRIDGE | UNDERGRADUATE SUPERVISOR

October 2019 - November 2022 | Cambridge, U.K.

- → Designed, supervised and mentored Masters student projects, including teaching NMR, EPR, DFT, diffraction and how to analyse and present data
- → Small-group teaching of first-year undergraduate chemistry courses (organic. physical and inorganic chemistry)
- → Practical laboratory class demonstrator for first and second-year undergraduate chemistry classes (organic, physical and inorganic chemistry)

TALKS & CONFERENCES

SEPTEMBER 2024:

Presented a poster at the Ab initio Modelling in Solid State Chemistry workshop, held at Imperial College London ("A Paramagnetic NMR Cluster Expansion Toolkit for Li-ion Battery Cathodes").

EDUCATION

UNIVERSITY OF CAMBRIDGE

PhD in Chemistry

Oct 2018 - Jul 2022 | Cambridge, U.K. Yusuf Hamied Department of Chemistry

Pass, no corrections

UNIVERSITY OF CAMBRIDGE

MA (CANTAB), MSCI IN NATURAL SCIENCES Oct 2014 - Jun 2018 | Cambridge, U.K. Yusuf Hamied Department of Chemistry Class I (5/60)

SKILLS

PROGRAMMING

Experienced:

Python • LATEX • MATLAB • Linux

Proficient:

C++ • CSS • HTML • Fortran

LANGUAGES

Fluent/Experienced:

English • German (B1/B2)

Proficient:

French • Italian

REFEREES

Professor Dame Clare P. Grey FRS,

Geoffrey Moorhouse Gibson Professor of Chemistry, University of

Professor Raphaële Clément,

Associate Professor of Materials. University of California, Santa

□ rclement@ucsb.edu

Professor Anton Van der Ven,

Professor of Materials, University of California, Santa Barbara

avdv@ucsb.edu

Professor Andrew J. Pell, Professor of Chemistry, École Normale Supérieure de Lyon & Centre de RMN á Très Hauts Champs de Lyon

andrew.pell@ens-lyon.fr

APRIL 2024:

Invited talk to the CRMN: "Constructing a Paramagnetic NMR Cluster Expansion Toolkit"

DECEMBER 2023:

<u>Invited talk</u> at the NMR Seminar Series (Department of Chemistry, University of Cambridge), "Introduction to Phase Cycling and Pulse Programming"

NOVEMBER 2023:

Materials Research Society Fall Meeting: presented two posters ("Strain-Magnetism coupled cluster expansion in NaMnO2"; "A Paramagnetic NMR Cluster Expansion Toolkit for Li-ion Battery Cathodes") and one talk ("Characterisation of Strongly Paramagnetic Cathodes using EPR and DFT")

MAY 2023:

<u>Invited talk</u> at the Collaborative Computational Project for NMR Crystallography webinar on DFT calculations for paramagnetic NMR: "Assigning NMR Spectra of Strongly Paramagnetic Materials"

MARCH 2023:

Royal Society of Chemistry JEOL Medal Session: presented characterisation of strongly paramagnetic Li-ion battery cathodes using multi-frequency, variable-temperature EPR combined with DFT calculations: "Characterizing Paramagnetic Battery Cathodes with EPR and DFT"

FEBRUARY 2023:

<u>Invited talk</u> at the International Virtual EPR Meeting: "Eyes to the Spin: Characterizing Paramagnetic Battery Cathodes with EPR and DFT"

MARCH 2022:

<u>Invited talk</u> at the Global NMR Discussion presentation: provided an overview of paramagnetic NMR applied to sodium-ion batteries to researchers from across the globe ("Motion, Migration, Charge Compensation in a Na+-ion Battery Cathode: Tales from the Paramagnetic NMR Storybook")

OCTOBER 2021:

<u>Invited talk</u> to Clément, Van der Ven and Seshadri Groups at the University of California, Santa Barbara about characterising the electronic, magnetic and chemical structure changes induced on electrochemically cycling sodium-ion battery cathode materials.

MARCH 2021:

Virtual Presentation to Selwyn College Natural Sciences Society about undertaking a PhD in Chemistry and my research on lithium- and sodium-ion batteries

MARCH 2021:

<u>Invited talk</u> to Cliffe Group at the School of Chemistry in the University of Nottingham about studying structural changes in sodium-ion battery cathodes

JANUARY 2020:

Presentation to the research groups based at the Centre de RMN à Très Hauts Champs in the Ecole Normale Supérieure de Lyon (France) about using NMR to study sodium-ion dynamics in sodium-ion battery cathodes

NOVEMBER 2019:

Poster presentation at the European Federation of Electron Paramagnetic Resonance school in Brno (Czech Republic) about using EPR spectroscopy in battery materials

AWARDS

2025

• Marie-Skłodowska-Curie Fellowship fund (€250,000), scored 98.6/100 • Royal Society of Chemistry Research Development Grant (£500)

2024

 Poster Award, Ab Initio Modelling in Solid State Chemistry Workshop

2023

- Royal Society of Chemistry Research Development Grant (£500)
- Heeger Fellowship (\$US 500)
- University of Cambridge Outstanding Thesis prize
- Poster Award at the Materials Research Society Fall Meeting

2022

- Selwyn College Travel Award (£2500)
- Royal Society of Chemistry Research Development Grant (£500)
- International EPR Society poster award at the Rocky Mountain Conference on Solid-State NMR and EPR
- Three-Minute Thesis Winner, Selwyn College

2021

• Selwyn College Travel Award (£800)

2019

 Department of Chemistry, University of Cambridge Travel Award

2018

- Emeleus Prize for Distinction in Inorganic Chemistry
- Johnson Matthey Prize for Best Inorganic Research Project
- Ron Snaith Award for Best Inorganic Chemistry Research Presentation

2017

- BP Prize for Outstanding Work in Practical Chemistry
- Walters-Kundert Sciences Summer Studentship Fund (£1800)

2016

 Cambridge Materials Placements for Undergraduates Studentship (£1800)