

Dr Ross Harvey Colman Ph.D.

Date of birth: 18.03.1984

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Orcid ID: [0000-0002-5039-9764](https://orcid.org/0000-0002-5039-9764)Publons (ResearcherID): [C-1657-2017](https://publons.com/researcher/C-1657-2017)SCOPUS: [35200560300](https://scopus.com/authid/detail.uri?authorId=35200560300)

Publications (Publons): 33

Citations: 667

H-index: 12

Education:

- 2015 - 2016: Postgraduate Certificate in Education (PGCE) with Qualified Teacher Status (QTS)
Durham University, Dept. Education, United Kingdom
- 2007 – 2011: Ph.D. in Physical Chemistry
University College London, United Kingdom
Thesis title: *Experimental investigations of $S=1/2$ kagome magnets: The search for quantum spin liquids*
- 2003 – 2007: MChem, 1st Class Honours – Bachelors and Masters in Chemistry
Cardiff University, Dept. Chemistry, United Kingdom

Employment:

- Aug 2017 – Present: Research Scientist
Charles University, Department of Condensed Matter Physics, Czech Republic
Research, Supervision and teaching responsibilities. Research focuses on both the synthesis and investigation of Heusler alloys with magnetic shape memory properties, and the investigation of geometrically frustrated strongly correlated electron systems. Typical activities include synthesis, crystal growth, structural investigations by X-ray and neutron diffraction, physical and electronic property measurements, muon spin relaxation spectroscopy.
- Sept 2015 – Aug 2017: Teacher of Chemistry
Gosforth Academy, Newcastle, United Kingdom
- Apr 2012 – Sept 2014: Post-doctoral research associate
Durham University, Dept. Chemistry, United Kingdom
Working on the synthesis, structure and property measurements of light element superconducting materials, with a focus on the structure-property relationships of highly expanded fulleride superconductors.
- Dec 2010 – Apr 2012: Pre- and Post-doctoral research fellow
Aberdeen University, Dept. Chemistry, United Kingdom
Investigating the structure-property relationships of magnetoresistive and superconducting layered cuprate oxides.

Fields of interest and expertise:

Interests including crystal growth, magnetic-shape-memory (MSM) alloys, frustrated magnetism, unconventional magnetic ground-states, quantum spin liquids and unconventional superconductors. Expertise in sample synthesis by floating-zone, Bridgeman and flux crystal growth, solid-state synthesis, hydrothermal and air-sensitive techniques, including alloys, magnetic oxides, hydroxy-halides and fullerides. Extensive use of characterisation tools including composition analysis by XRF and EDX, laboratory and synchrotron X-ray diffraction, pair-distribution function analysis, neutron diffraction and microscopy. Magnetic and electronic property measurements and muon spin relaxation spectroscopy.

Language skills:

English → Native speaker; Czech → Basic communication

Relevant scientific activities in the last 5 years:

- Principle investigator of GAČR Junior Researcher grant 2019-2023 (19-21575Y, 5379 tis Kč). Project title:
- Scholarships: Awarded an inter-university scholarship grant for a one-month research trip to visit the Crystallography Department of the University of Vienna (2018).
- Output (5 yr): Co-author of 18 journal articles including publications in *Nature Chemistry* (2017) and *Nature Communications* (2017).
- Proposer / co-proposer of 11 accepted synchrotron radiation, neutron scattering or muon spectroscopy proposals at international large-scale facilities within the last 5 years (Diamond, ESRF, ILL, ISIS and PSI).
- Reviewer of papers in *Journal of Physics and Chemistry of Solids*.
- Invited talks at international conferences such as the International Conference on Ferromagnetic Shape Memory Alloys [ICFSM](#), and Solid Compounds of Transition Elements, [SCTE2021](#).

Teaching responsibilities:

- Supervision of one defended Bachelor student (2020). Thesis title: *Magnetic shape memory alloys: effects of doping with Cu and Fe*.
- One current Bachelor student, with project title: *Crystals with magnetic frustration and multiferroic coupling*.
- One current Master student, with project title: *The search for new spin-liquid materials – synthesis of kagome and pyrochlore fluoride magnets*.
- Teaching of NFPL086 *Experimental Methods in Condensed Matter Physics*; NFPL802 *Field Seminar II*; and NFPL118 *Seminar on Magnetism*. As well as guest lectures in NFPL213 *Preparation of Single Crystals for Materials Research*; and NOFY048 *Problems of Current Physics*.