

Honorary Research/Retired Professor



Honorary Research/Retired Professor: Prof Krish Bharuth-Ram

Email: kbr@dut.ac.za

Qualification(s): D.Phil Nuclear Physics, Oxford University

Area of expertise: Nuclear Condensed Matter physics

Subject expertise: Applied Nuclear Physics, Hyperfine Interactions

Academic Interests: Black research capacity development in South Africa

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Research Gate:

https://www.researchgate.net/profile/Krish_Bharuth-Ram

Google Scholar:

https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=krish+bharuth+ram&btnG=&oeq=Krish+bharuth-Ra

Collaborations:

- Professor Dr Carsten Ronning, Institute for Solid State Physics, Friedrich-Schiller University, Jena, Germany
- Dr Uli Wahl, Institute for Nuclear Technology, Lisbon, Portugal
- Dr Guilherme Correia, ISOLDE, CERN, Geneva
- Dr H P Gunnlaugsson, Science Institute, University of Iceland, Reykjavik, Iceland
- Prof D Naidoo and Dr H Masenda, Physics Department, University of the Witwatersrand, Johannesburg
- Prof T B Doyle, School of Chemistry and Physics, University of KwaZulu-Natal, Durban
- Head of SA-ISOLDE group in the National SA-CERN Programme, 2009-2018

Research and Innovation focus:

Applications of nuclear methods in the modification and characterization semiconducting materials, with a focus on potential spintronic materials, i.e. semiconducting material implanted with spin carrying dopant ions. Techniques involved here are ion implantation, Moessbauer spectroscopy and magnetization measurements

Direct determination of the lattice sites of implanted transition metal (TM) and rare earth (RE) ions in diamond: There is renewed interest in the lattice location of heavy ions incorporated in diamond, ranging, for example, from the creation of luminescence centres in diamond to building blocks for quantum networks based on split vacancy centres in diamond. This program is at the online radioactive beam facility, ISOLDE, at CERN, Geneva.

Applications of Mössbauer Spectroscopy in Chemistry and Condensed Matter Physics : A range of projects have been conducted with colleagues in the Emission Mössbauer Collaboration, ISOLDE/CERN, the School of Chemistry and Physics, UKZN (Venkat Dasireddy, H Friedrich, Faeza Khan), National Institute of Chemistry, Slovenia, and Indian Institute of Technology – Delhi, India.