# Curriculum Vitae of Kaustubh R. S. Priolkar

School of Physical and Applied Sciences
Goa University
Taleigao Plateau
Goa 403 206 India

Phone: 91-8669609210
Fax: 91-832-2451184
email: krp@unigoa.ac.in

Kaustubh Priolkar is a Professor of Physics at Goa University. He is presently the Dean, School of Physical and Applied Sciences.

## Academic Qualifications

- *B.Sc.(Physics) (1987-1990)*, Goa University, Goa
- *M.Sc.(Physics) (1990- 1992)*, Goa University, Goa
- *Ph.D.(Physics) (1992-1998)*, Goa University, Goa
  Title: Transport and Magnetic Properties of Cerium based Kondo Systems (Inelastic Neutron Scattering Studies)
  Advisors: Prof. R. B. Prabhu and Prof. P. R. Sarode

## Research Interests

Structure and Property correlation in Functional Materials using X-ray Absorption Spectroscopy.

Current Activities

- Role of structural defects in magneto-structural transformation in Shape Memory Alloys and Antiperovskites.
- Structure property correlation in strongly correlated electron systems.
- Mechanism of Long lasting luminescence materials as biomarkers.

## Major Scientific Contributions

Kaustubh Priolkar's research activities are concentrated around studying different functional materials using XAFS spectroscopy. The unifying feature of his work is highlighting the importance of local structural distortions and structural defects in functional properties of such materials.

- In **$Mn_3GaC$ type cubic antiperovskites**, stabilization of long range antiferromagnetic order has been shown to occur as a consequence of distortion of the Mn sub-lattice.
- In **Shape Memory Alloys**, the local structural distortions act as a driver of martensitic transformation. Role of structural defects in inducing non-ergodic ground state has been highlighted.
- In **long lasting luminescence materials** with applications as bio-markers, structural distortions have been used to identify the electron and hole traps responsible for persistent luminescence.
- The distortion of oxygen cage around Ce ion results in higher-oxygen-storage-capacity of **ceria-based catalysts**.

Priolkar is also involved in developing low-cost experiments for improving Physics education.

His PhD work involved inelastic neutron scattering studies of cerium based Kondo systems. Such experiments were performed for the first time in India at Bhabha Atomic Research Centre, Trombay.

**Publications**

Journals: 117

Conference Talks and Presentations: > 80

h – index: 27* / 28[#] *Source: SCOPUS (ID: 6602137192)

Total Citations: 3488* / 4061[#] [#]Google Scholar

https://scholar.google.com/citations?user=5C5Pfa0AAAAJ&hl=en&authuser=1

Publications through Own and Directed research – **75**

Publications through Collaborations (mainly responsible for EXAFS part) – 42

**Awards and Distinctions**

- Prof. Priolkar has been elected as a member of National Academy of Sciences of India (NASI), Allahabad.
- He is a recipient of the Material Research Society of India's medal lecture award in 2015 and state award for excellence in Higher education for 2021-22.
- He was visiting professor at the Chimie Paris-Tech, Paris, France and has successfully executed a joint Indo-French project.
- Presently he serves as a member of the National Steering committee of DST (India) – DESY (Germany) Project.
- He is also a member of User's Committee of UGC-DAE Consortium for Scientific Research, Mumbai Centre.