

Dr. Ramesh Karuppanan

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Name **Dr. K. Ramesh**
Date of Birth June 9, 1964
Institution Department of Physics
Indian Institute of Science, Bangalore-560 012.

Academic and Professional Career

Degree

1. M.Sc. (Applied Physics) Bharathidasan University, Trichy (1987)
2. Ph.D. (Physics) Indian Institute of Science, Bangalore (1999).

Positions held:

Principal Research Scientist Department of Physics, IISc, Bangalore	June 2010 - present
Senior Scientific Officer: Department of Physics, IISc, Bangalore.	December 2002 – May 2010
Scientific Officer: Department of Physics, IISc, Bangalore	June 1999 – November 2002
Technical Officer: Department of Physics, IISc, Bangalore	August 1994 - June 1999
Scientific Assistant: Department of Physics, IISc, Bangalore	August 1988 - August 1994
Postdoctoral Fellow: NYSC, Alfred University, Alfred, New York, USA.	July 2000 – July 2001
Research Scientist: Ultimo Solutions, USA.	May 2006 – Nov 2007

Research Interests:

- Nano structured carbon nitrides (Ultra hard materials)

- Glass formation in chalcogenide glasses
- Rigidity percolation, intermediate phases and self organization in network glasses
- Phase transition of solids at elevated pressures and temperatures
- High field (Electrical switching) effects on chalcogenide glasses (**Phase Change Materials**)
- High temperature X-ray diffraction to study the phase diagram/phase equilibria

SKILL:

- Excellent working knowledge in Differential Scanning Calorimeters both DSC and MDSC
- Experience in preparation and characterization of amorphous semiconductors
- Experience in preparation of Carbon nano structures
- Excellent working knowledge of High Pressure Conductivity set up for high temperatures and low temperatures (Bridgman Anvil Device)
- Experience in Photo Acoustic Spectroscopy (PAS) and AC Calorimetry
- Experience in thin film deposition (thermal evaporation, flash evaporation, spray pyrolysis and CVD)
- Knowledge on high temperature electrical conductivity setup (upto 1500 °C)
- Experience in x-ray diffraction (XRD) measurements (room temperature to 1500 °C)
- Computer programming/languages known: UNIX, C, Oracle, SAP Security