

## Education

*Doctor of Philosophy (Physics)* - July 2009

Indian Institute of Technology Madras, Chennai, India

**Thesis title:** Thermopower and ion beam studies on manganese doped transparent conducting oxides

*Master of Philosophy (Physics)* - June 2002

University of Kerala, India

*Master of Science (Physics)* - May 2000

University of Kerala, India

## Professional experience

December 2009- present: Post-doctoral fellow at King Abdullah University of Science and Technology (KAUST), Kingdom of Saudi Arabia, working on thermoelectric thin films.

## Research interests

Thermoelectric materials and devices, Transparent conducting oxides, Diluted magnetic semiconductors, Physics of thin films-surfaces and interfaces.

## Research expertise

Growth of thin films by different physical vapor deposition techniques such as thermal and e-beam evaporation, dc and rf magnetron sputtering and pulsed laser deposition.

Proficiency in X-ray Diffraction, Raman and UV-Visible-NIR spectroscopy, Transmission and Scanning Electron Microscopy, Ion beam techniques (RBS, PIXE and SIMS), X-ray Photoelectron Spectroscopy and Seebeck coefficient and electrical resistivity measurements.

## Fellowships

1. Junior and Senior Research Fellowships by 'Council of Scientific and Industrial Research', Govt. of India (2003) after qualifying the national competitive examination, Joint UGC-CSIR National Eligibility Test.

## Publications in peer-reviewed journals

1. **S.R. Sarath Kumar**, P. Malar, Thomas Osipowicz, S.S. Banerjee, and S. Kasiviswanathan, *Nucl. Instr. and Meth. B*, **266** (2008) 1421.
2. **S.R. Sarath Kumar** and S. Kasiviswanathan, *Rev. Sci. Instrum.*, **79** (2008) 024302.
3. **S.R. Sarath Kumar** and S. Kasiviswanathan, *Semicond. Sci. Technol.*, **24** (2009) 025028.
4. **S.R. Sarath Kumar** and S. Kasiviswanathan, *IEEE Sensors J.*, **9** (2009) 809.
5. **S.R. Sarath Kumar**, V. Damodara Das and S. Kasiviswanathan, *Thin Solid Films*, **518** (2009) 1390.
6. **S.R. Sarath Kumar**, M.N. Hedhili, S. Kasiviswanathan and H. N. Alshareef, *Appl. Phys. Lett.*, **97** (2010) 111909.
7. **S.R. Sarath Kumar**, A. Alyamani, J.W. Graff, T.M. Tritt and H.N. Alshareef, *J. Mater. Res.*, **26** (2011) 1836.