



Dr. Saatviki Gupta

DST INSPIRE Faculty

Centre/School/Special Centre: Special Centre for Nanoscience

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Qualifications: Ph. D. (Physics)

Areas of Interest/Specialization:

Synthesis and characterization of nanostructured photovoltaic materials, synthesis of novel supercapacitor materials and device structures, application of Scanning Probe Microscopy techniques (particularly Kelvin Probe Force Microscopy and Conducting Atomic Force Microscopy) for nano-scale material characterization

Experience:

- Post Doctoral work (November 2015 - September 2016) - Indian Institute of Technology Delhi

- Post Doctoral work (October 2016 - April 2017) - Stephenson Institute for Renewable Energy, University of Liverpool, Liverpool, UK

- DST INSPIRE Faculty (September 2017 - present) - Special Centre for Nanoscience, Jawaharlal Nehru University, New Delhi

Awards & Honors:

1. Selected for the DST INSPIRE Faculty Award in February 2017 in Materials Science

2. Selected for the EPSRC Global Challenges Research Fund Institutional Sponsorship Awards 2016 to visit and work at the Stephenson Institute for Renewable Energy, University of Liverpool, UK for 7 months
3. Selected for the Bhaskara Advanced Solar Energy Fellowship – 2014 by the Indo-US Science & Technology Forum and Department of Science & Technology (Govt. of India) to work in the Department of Chemical Engineering, University of Texas at Austin, USA
4. Invited to give a talk at the Max Planck Institute for Polymer Research, Mainz, Germany in May, 2015 titled “Kelvin probe force microscopy as a tool for studying nanostructured heterojunctions”.

Best Peer Reviewed Publications (upto 5):

- [1] S. Gupta, T.J. Whittles, Y. Batra, V. Satsangi, S. Krishnamurthy, V. R. Dhanak & B.R. Mehta “A low-cost, sulfurization free approach to control optical and electronic properties of CZTS via precursor variation” *Solar Energy Materials and Solar Cells*, Vol. 157, pp. 820-830 (2016)
- [2] S. Gupta, D. Varandani, A.K. Sharma, V.R. Satsangi & B.R. Mehta “Nanoscale interface mapping of CdS-CZTS single nanorod heterojunction using Kelvin probe force microscopy” *Applied Surface Science* 331 (2015)
- [3] S. Gupta, Y. Batra, B.R. Mehta & V.R. Satsangi, “Study of charge separation & interface formation in a single nanorod CdS-CuxS heterojunction solar cell using Kelvin probe force microscopy” *Nanotechnology* 24 255703 (2013)
- [4] S. Gupta, B.R. Mehta & V.R. Satsangi, “Size and oxygen passivation induced reversal of photoconducting behaviour in CdS nanorods” *Nanotechnology* 23 355702 (2012)
- [5] B.R. Mehta, S. Gupta, V.N. Singh, P. Tripathi & D. Varandani, “Photovoltaic response of a topotaxially formed CdS-CuxS single nanorod heterojunction” *Nanotechnology* 22 135701 (2011)