Résumé of Dr. Suparna Sadhu

Designation: Assistant Professor

Contact Information

Permanent address: C/O Abhijit Samamta
Vill. Dubir Bheri, P.O. Karicha
Dist. Hooghly, PIN. 712409
West Bengal
E-mail: suparna.sadhu@gmail.com

Phone: +91 9432959204

Education

Ph.D – Indian Association for the Cultivation of Science (2011)
M.Sc. (Chemistry) - Jadavpur University (2005, **Rank 1st**)
B.Sc. (Chemistry Hons.) - Jadavpur University (2003)
Higher Secondary – W.B.C.H.S.E. (2000)
Secondary Education- W.B.B.S.E. (1998)

Professional Career

Assistant Professor (11th July 2017- till date at Sarat Centenary College, Dhaniakhali, Hooghly)
Assistant Professor (18th March 2015-10th July 2017 at Sukumar Sengupta Mahavidyalaya, Keshpur, Paschim Medinipur)
CSIR-Research Associate (April 2013-March 2015)
Research Associate (February 2011-March 2013)
CSIR-Senior Research Fellow (February 2008-December 2010)
CSIR-Junior Research Fellow (January 2006-January 2008)

Awards, Merit Certificates and Scholarship

1) *University Medal* for standing ***1 st*** **in order of merit at the *M.Sc.*** *Examination*.
2) CSIR-NET Junior Research Fellowship in December, 2004.
3) Qualified GATE Examination held on February, 2005.
4) National Merit Scholarship for Madhyamik (Secondary), Higher Secondary and B.Sc. Examination

Research Experience

Broad area of research: Materials Science

Current Area of research:

- Computational Study of NON-linear optical properties of organic chromophores and of different nanomaterials using Density Functional Theory (DFT)
- Synthesis and photophysical properties of graphene oxide/reduced graphene oxide based hybrid nanomaterials
- Understanding the carrier relaxation dynamics in different shapes and sizes of pure, doped, hybrid and alloyed semiconductor quantum-dots.

List of Publications **Total citation > 940** **h index = 19**

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20) Supriya Mondal, **Suparna Sudhu**, Shatabda Bhattacharya, and Shyamal K. Saha "Strain-Induced Tunable Band Gap and Morphology-Dependent Photocurrent in RGO−CdS Nanostructures" ***J. Phys. Chem. C*** 2015, 119, 27749−27758.

19) Dipankar Bain, Bipattaran Paramanik, **Suparna Sadhu** and Amitava Patra "A study into the role of surface capping on energy transfer in metal cluster–semiconductor nanocomposites" ***Nanoscale***, 2015, 7, 20697-20708.

18) Diptiman Dinda, Abhisek Gupta, Bikash Kumar Shaw, **Suparna Sadhu** and Shyamal Kumar Saha "Highly Selective Detection of Trinitrophenol by Luminescent Functionalized Graphene Oxide through FRET mechanism" ***ACS Appl. Mater. Interfaces*** 2014, 6, 10722−10728.

17) Simanta Kundu, **Suparna Sadhu**, Rajesh Bera, Bipattaran Paramanik and Amitava Patra "Fluorescence Dynamics and Stochastic Model for Electronic Interaction of Graphene Oxide and CdTe QD in Graphene Oxide-CdTe QD Composite" ***J. Phys. Chem C*** 2013, 117, 23987–23995 (**appeared in the front cover page**).

16) **Suparna Sadhu** and Amitava Patra "Recent Advances in Carrier Relaxation Dynamics and Energy Transfer of Semiconductor Quantum Dots: Size, Shape and Composition" ***ChemPhysChem***. 2013, 14, 2641-2653 (**Invited Mini Review**).

15) Sadananda Mandal, Motiar Rahaman, **Suparna Sadhu,** Sandip K. Nayak and Amitava Patra "Fluorescence Switching of Quantum Dot in Quantum Dot-Porphyrin-Cucurbit [7] Assemblies" ***J. Phys. Chem C*** 2013, 117, 3069–3077.

14) **Suparna Sadhu** and Amitava Patra "Lattice strain controls the carrier relaxation dynamics in $Cd_xZn_{1-x}S$ alloy QD" ***J. Phys. Chem. C*** 2012, 116, 15167−15173.

13) **Suparna Sadhu** and Amitava Patra "Relaxation dynamics of anisotropic shaped CdS nanoparticles" ***J. Phys. Chem C*** 2011 115, 16867–16872.

(Publication from Ph.D work)

12) **Suparna Sadhu**, Krishna Kanta Halder and Amitava Patra "Size Dependent Resonance Energy Transfer between Semiconductor Quantum Dots and Dye Using FRET and Kinetic Model" ***J. Phys. Chem. C*** 2010, 114, 3891-3897.

11) **Suparna Sadhu**, Masanori Tachiya and Amitava Patra "A stochastic model for energy transfer from CdS quantum dots/rods (donors) to nile red dye (acceptors)" ***J. Phys. Chem. C***, 2009, 113, 19488-19492.

10) **Suparna Sadhu** and Amitava Patra "Composition effects on quantum dot-based resonance energy transfer" ***Appl. Phys. Lett.*** 2008, 93 183104-1-3. *(Selected for Virtual Journal of Ultrafast Science, Dec.2008).*

9) **Suparna Sadhu** and Amitava Patra "Donor-acceptor systems: Energy transfer from CdS quantum dots/rods to nile red dye" ***Chem. Phys. Chem***. 2008, 9, 2052-2058.

8) **Suparna Sadhu**, Paramita Saha Chowdhury and Amitava Patra "Synthesis and time-resolved photoluminescence spectroscopy of capped CdS nanocrystals" ***J. Luminescence*****,** 2008, 128, 1235.

7) **Suparna Sadhu,** Tapasi Sen and Amitava Patra "Phase and shape controlled synthesis of CdS nanocrystals and their characterization" ***J. Nanosci. & Nanotech,*** 2008, 8, 1238.

6) Pushpal Ghosh, **Suparna Sadhu**, Tapasi Sen and Amitava Patra "Upconversion emission of BaTiO3: Er nanocrystals" ***Bull. Mater. Sci.*** **(*special issue*)** 2008, 31, 461.

5) **Suparna Sadhu** and Amitava Patra "Synthesis and spectroscopic study of high quality alloy CdxZn1-xS nanocrystals" ***J. Chem. Sci.*** **(*special issue*)** 2008, 120, 557-564.

4) Tapasi Sen, **Suparna Sadhu** and Amitava Patra "Surface energy transfer from rhodamine 6G to gold nanoparticles: A spectroscopic ruler" ***Appl. Phys. Lett.*** 2007, 91, 043104-1.

3) **Suparna Sadhu**, Tapasi Sen and Amitava Patra "Shape Controlled Synthesis and Luminescence Properties of ZnO: Eu^{3+} Nanostructures" ***Chem. Phys. Lett.*** 2007, 440, 121.

2) **Suparna Sadhu**, Paramita Saha Chowdhury and Amitava Patra "Understanding the role of particle size on photophysical properties of CdS: Eu^{3+} nanocrystals" ***J. Luminescence*** 2007, 126, 387.

1) Pushpal Ghosh, **Suparna Sadhu** and Amitava Patra "Preparation and photoluminescence properties of Y2SiO5: Eu^{3+} nanocrystals" ***Phys. Chem. Chem. Phys,*** 2006, 8, 3342.