Dr. Sovan Kumar Panda
Assistant Professor
Department of Electronics
Date of joining: 10th April, 2014

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Education Details

i. Ph.D., Indian Institute of Technology, Kharagpur, 2009
ii. M.Tech., Jadavpur University, 2005
iii. M.Sc., Jadavpur University, 2003

Professional Experience

i. INSPIRE Faculty Awardee, Central Glass & Ceramic Research Institute, Kolkata, December, 2012 to April, 2014
ii. Assistant Professor, Department of Electronics and Communication Engineering , Shiv Nadar University, Uttar Pradesh, India, March, 2012 to December, 2012
iii. Principal Researcher, School of Advanced Materials Engineering, Kookmin University, Seoul, South Korea, April, 2010-Nov, 2011.
iv. Research Associate, Energy Research Unit, Indian Association for the Cultivation of Science, Kolkata, India, Sept, 2009-April, 2010 and Dec, 2011-March, 2012.
v. Lecturer, Department of Electronics and Communication Engineering, Techno India, Salt Lake Campus, Kolkata, West Bengal, India, Feb, 2005-June, 2005.

Research Interests

i. Nanotechnology
ii. Energy storage: Li-ion battery
iii. Energy generation device: Solar cells
iv. Water splitting by photo-catalytic technique
v. Nano-electronic devices: p-n junction, Schottky junction, Heterojunction, FETs, LEDs, Sensors etc.

Award/ fellowship & Recognition of Excellence in Research

- University Gold Medal for University first in B.Sc. from Vidyasagar University.
- National Scholarship from Govt. of India (Ministry of Education) for 2002-2003.
- Institute Fellowship for Ph.D., Indian Institute of Technology, Kharagpur, (Awarded by Ministry of Human Resource Development (MHRD), Govt. of India) for 2005-2009.
- Best Poster Award in 18th AGM of the Materials Research Society of India (MRSI), Feb 2007, NPL, New Delhi, India.
- Best Poster Award in 20th AGM of the Materials Research Society of India (MRSI), Feb 2009, SINP, Kolkata, India.
- INSPIRE Faculty Award from DST-New Delhi, 2012

Reviewer of Journals/Member of Professional Bodies

- **Life member** of *Materials Research Society*, India
- **Life member** of *Indian Science Congress*, India
- **Reviewer** of *Applied Physics Letters, Thin Solid Film*s

Selected Publications

Dr. Panda has published one book chapter (International), 19 peer reviewed journal papers so far.

Book Chapter

S. K. Panda and H. Shin, "Atomic Layer Deposition of Nanostructured Materials", Chapter name: 'Step coverage in ALD', Wiley-VCH, ISBN-13: 978-3-527-32797-3, 2011.

Journal Articles

1. Colloidal silver nanoparticles prepared by UV-light induced citrate reduction technique for the quantitative detection of uric acid, A Maity, SK Panda, AIP Conference Proceedings 1942 (1) (2018) 050057

2. Synthesis of Colloidal Silver Nanoparticles by Reducing Aqueous AgNO 3 Using Green Reducing Agents, SK Panda, S Sen, S Roy, A Moyez, Materials Today: Proceedings 5 (3), (2018) 10054-10061

3. Vertically Aligned Si Nanowire Array—A Promising Anode Material for Li-Ion Battery, S. K Panda, H Shin, Energy and Environment Focus 6 (1) (2017) 83-87

4. Vertically Aligned Silicon Nanowire Array Decorated by Ag or Au Nanoparticles as SERS Substrate for Bio-molecular Detection, S Chakraborti, RN Basu, SK Panda, Plasmonics, (2017)1-24

5. "Electrochemical performance of amorphous and anatase TiO2 nanotube array-based anodes fabricated by atomic layer deposition", **S. K. Panda** and H. Shin, *Mater. Res. Innov*., 19 (2015) S5-695

6. "Reversible phase transformation of titania (anatase) nanotubes upon electrochemical lithium-intercalation observed by *ex situ* transmission electron microscopy ", **S. K. Panda**, , S. Lee, W-S. Yoon, H. Shin, *J. Power Source.* 249 (2014) 59

7. "Schottky Nanocontact on Single Crystalline ZnO nanorod Using Conducting Atomic Force Microscopy", **S. K. Panda**, S. B. Sant, C. Jacob, H. Shin, *J. Nanoparticle. Res.* 15 (2013) 1361

8. "Nanoscale Size Effect of TiO_2 (anatase) Nanotubes with Uniform Wall Thickness as High Performance Anode for Li-ion Secondary Battery", **S. K. Panda**, Y. Yoon, H.-S. Jung, W.-S. Yoon, and H. Shin, *J. Power. Source.,* 204 (2012) 162

9. "Preparation of Transparent ZnO Thin Film and its Application in UV Sensor Device", **S. K. Panda**, C. Jacob, *Solid State Electron.* 73 (2012), 44

10. "Synthesis of Step-Shaped Bismuth Nanowires – An Approach Towards the Fabrication of Self–Homojunction", **S. K. Panda**, D. Han, H. Yoo, H. Shin, H. Park, J. Xu, *Electrochem. Solid State Lett.,* 14 (2011) E21

11. "Synthesis of â-SiC Core-Sheath Nanowires by CVD Technique Using Ni as Catalyst", **S. K. Panda**, J. Sengupta, C. Jacob, *J. Nanosci. Nanotechnol*. 10 (2010) 3046

12. "Surface Enhanced Raman Scattering and Photoluminescence Properties of Catalytic Grown ZnO Nanostructures",

    a. **K. Panda** and C. Jacob, *Appl. Phys. A.* 96, 4, (2009) 805 (Rapid communication)

13. "Thickness Dependent Growth of Needle-Like and Flower-like ZnO Nanostructures", **S. K. Panda**, N. Singh, S. Pal and C. Jacob, *J. Mater. Sci.- Mater. Electron*., 20 (2009) 771

14. "Patterned Silicon Wafer for Selective â-SiC Nanowire Growth", **S. K. Panda**, C. Jacob, *Adv. Mater. Res.*67 (2009) 77

15. "ZnO Nanorod Growth with Silver Catalyst - Effect of Annealing", **S. K. Panda** and C. Jacob, *Physica E,* 41

(2009) 792

16. “A Comparative Study of the Synthesis of Carbon Nanotubes Using Ni and Fe as Catalyst”, J. Sengupta, **S. K. Panda** and C. Jacob, *Adv. Mater. Res*. 67 (2009) 89

17. “Carbon Nanotubes Synthesis from Propane Decomposition on a Pre-treated Ni Over layer, J. Sengupta, **S. K. Panda**, C. Jacob, *Bull. Mater.Sci*., 32 (2009) 135 (**Cover page article**)

18. “Catalytic Synthesis of ZnO Nanorods on Patterned Silicon Wafer -An Optimum Material for Gas Sensor”, **S. K. Panda** and C. Jacob, *Bull. Mater. Sci.* 32 (2009) 493 (**Cover page article**)

19. “Growth and Luminescence Properties of Large-Scale Zinc Oxide Nanotetrapods”, **S. K. Panda**, N. Singh, J. Hooda, C. Jacob, *Cryst. Res. Technol.,* 43 (2008) 751