TEACHER PROFILE/ CV

1. Full name of the faculty member: **Dr. SHYAMAL MONDAL**

2. Designation: Assitant Professor

3. Department: Department of Physics

4. Specialization (if any): Experimental Solidstate Physics

5. Contact Information:

Email: smondal.xray@gmail.com, Mobile: 9732046175, 9674446875

6. **Academic qualifications**

Please mention herethe degrees (graduation onward):

College/ university	Abbreviation of the Degree
University of Calcutta (research at SINP)	**Ph. D (Experimental Physics) 2018**
University of Burdwan	**Masters of Science (Physics) 2008**
B. B. College, Asansol	**Bachelors of Science (Physics Hons.) 2006**

7.Post holding after appointment at this institution

- **Member: Sports sub-committee Maharaja Manindra Chandra College from 2017**
- **Member: Special opportunity cell Maharaja Manindra Chandra College from 2017 onward**

8. Research interests

Energy harvesting through by nanostructured material: Nanostructure production through size selected metal cluster deposition, ion beam irradiation and thermal treatment of metal thin film.

9. Research Project

(a) Completed projects: None

(b) Current Project: UGC minor research project

10. Lectures delivered/paper presentation

Poster Presentation

1. International Conference of Ion-beam Nanopatterning of Materials (IINM) at Institute of Physics, Bhubaneswar on February 2011.

Poster title: Life cycle of GaAs ripples as a function of incident Ar-ion dose

2. Workshop on Electron Microscopy (WEM2011), jointly organized by Institute of Physics (IOP), Bhubaneswar and Indian Institute of Technology Bhubaneswar (IITBBSR), Bhubaneswar from November 23 - 25 , 2011.

Poster title: Morphological and Crystalline Property of Deposited Size-selected Copper Nanoclusters on Silicon (100) Surface

3. The 56th DAE Solid State Physics Symposium (DAE-SSPS 2011), held at SRM University, Chennai, during 19-23 December, 2011.

Poster title: Morphology of Size-selected Copper Nanocluster film

4. 12th International Conference on Surface X-ray and Neutron Scattering (SXNS-2012) , organized by Saha Institute of Nuclear Physics, Kolkata, from 25th to 28th July, 2012.

5. Conference cum Workshop in Electron microscopy held at Benares Hindu University during 6-8 December 2012

Poster Title: Investigating the role of dewetting in the formation of nanostructures of silver by rapid thermal annealing process

6. 1st International Workshop on Nanomaterials (IWoN):Engineering Photon and Phonon Transport held at JadavpurUniversirty during 14 – 15 December 2012

Poster Title: Organised Island Formation by Nanocluster Deposition

7. Recent trends in Applied physics & Material science (RAM 2013), held at Bikaner during 1-2nd February 2013

Topic: Size-selected Copper Nanolclusters For Fabrication Of Isolated Size-controlled Nanostructures

8. Symposium on Size Selected Clusters (S3C) held at Davos, Switzerland during 3 – 8th of March 2013

Topic: Evolution of surface grown by size-selected low energy copper cluster deposition

9. The 58th DAE Solid State Physics Symposium (DAE-SSPS-2013) held at the Thapar University, Patiala during December 17-21, 2013.

Topic: Evolution Nano-structures of Silver Due To Rapid Thermal Annealing

10. The 59th DAE Solid State Physics Symposium (DAE-SSPS-2014) held at Vellore Institute of Technology Vellore during December 2014

11. 3rd International Conference On Nanoscience and Nanotechnology (ICONN 2015) held at SRM university, Kattankulathur during 04-06 February 2015.

Topic: Study on the stability of the film composed by low energy deposition of size selected copper nanoclusters.

12. Two-day State Level Seminar on "Performing Arts" held at Maharaja Manindra Chandra College, during 10-11th December 2015

13. Workshop on Nanocluster Synthesis, Characterization and Applications (NSCA) organized by Nanoparticle by Design Unit at Okinawa Institute Science Technology Graduate University, Okinawa, Japan during 16th May to 19th May 2016.

Topic: Oxidation behavior of supported Cu nanoclusters

14. "Young Scientist Colloquium2016" organized by Material Research Society of India(MRSI- Kolkata chapter) held at SNBNCBS, Kolkata on September 16, 2016

Topic: Soft-landing of size-selected nanoclusters: novel method of fabricating desired nanostructures.

15. The 61th DAE Solid State Physics Symposium (DAE-SSPS-2016) held at KIIT Orissa, during 26th to 30th December 2016. Topic: Oxygen Adsorption By Supported Size-selected Copper Clusters: Substrate Effects

16. Nanopatterning 2017 and For3Nano workshop held at University of Helsinki, Helsinki, Finland during 26-30th June 2017. Topic: Organized arrays of 3D nanostructures driven by surface curvatures induced by ion irradiation.

Oral Presentation

1. International Conference on Electron Microscopy and XXXIV Annual Meeting of the Electron Microscope Society of India (EMSI) held at Kolkata during 3-5th of July 2013

Topic: Size-selected copper nanoclusters: Role of substrate temperature

2. International Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2013) held at IIT-Guwahati during December 1-3, 2013.(Oral presentation)

Topic: Role of substrate temperature on thin films (morphology) grown by softlanding of size-selected copper nanoclusters

3. Functional Materials: Recent Trends organized by held at Presidency University, Kolkata on 29th January 2016

Topic: Production of ligand free pure nanoparticles: direct control on size.

4. National Seminar on "Characterization of Nanomaterials" organized by Ramananda College, Bishnupur, Bankura during 22nd -23rd September, 2016.

Topic: Size selected nanocluster deposition: a paradigm shift in thin film deposition.

5. National Conference on Condensed Matter Physics, organized by Indian Statistical Institute, Kolkata, during 2nd and 3rd February.

Topic: Soft-landing size selected nanocluster: a tool for precise control in nanostructure size and spatial distribution

6. 4th International conference on nanoscience and nanotechnology 2017 (ICONN17) held at SRM university, Chennai during 9-11 August, 2017. Topic:

11. Publications:

(a) Published paper in Journals

1. **'Growth process of GaAs ripples as a function of incident Ar-ion dose'**, D. Datta, **Shyamal Mondal**, S. R. Bhattacharyya, *Appl. Surf. Sci.***258**, 4152 (2012)

2. **'Morphology of Size-selected Copper Nanocluster film, Shyamal Mondal'**, S. R. Bhattacharyya, *AIP Conf. Proc.***1447**, 737 (2012)

3. **'Wetting and Surface Energy of Vertically Aligned Silicon Nanowires'**, S. Jana, **S. Mondal** and S. R. Bhattacharyya, *J. Nanoscience &Nanotechnol.***13**, 3983 (2013)

4. **'Size-selected Copper Nanolclusters For Fabrication Of Isolated Size-controlled Nanostructures', S. Mondal**, S. Jana and S. R. Bhattacharyya, *AIP Conf. Proc.***1536**, 203 (2013).

5. **'Morphological and optical properties of soft-landed supported nanoclusters: effect of rapid thermal annealing'**, **Shyamal Mondal**, S. R. Bhattacharyya, *Appl. Phys. A* **116**, 1621 (2014)

6. **'Performance of a size-selected nanocluster deposition facility and in situ characterization of grown films by x-ray photoelectron spectroscopy' Shyamal Mondal**, S. R. Bhattacharyya, *Rev. Sci. Instrum.* **85**, 065109 (2014)

7. **'Evolution of nano-structures of silver due to rapid thermal annealing'**, **Shyamal Mondal**, S. R. Bhattacharyya, *AIP Conf. Proc.***1591**, 1000 (2014)

8. **'Formation of Monodispersed Films from Size-Selected Copper Nanoclusters'**, J. *Nanosci. Nanotechnol*.**15**, 611 (2015)

9. **'Oxidation behavior of copper nanofractals produced by soft-landing of size-selected nanoclusters', Shyamal Mondal** and S. R. Bhattacharyya, *RSC Advances*, **5**, 99425 (2015)

10. **'Characterization of submonolayer film composed of soft-landed copper nanoclusters on HOPG', Shyamal Mondal, Pabitra Das, Debasree Chowdhury and S. R. Bhattacharyya,** *AIP Conf. Proc.* **1665**, 140040 (2015)

11. **'Size and density controlled Ag nanocluster embedded MOS structure for memory applications'**,Debaleen Biswas, **Shyamal Mondal**, S. R. Bhattacharyya and Supratic Chakraborty*Materials Science in Semiconductor Processing***63,** 1 (2017).2.264

12. **'Growth dynamics of copper thin film deposited by soft-landing of size selected nanoclusters'**, **Shyamal Mondal**, Debasree Chowdhury, Pintu Barman and S. R. Bhattacharyya, *Euro Phys. J. D***71,** 327 (2017)

13. Shyamal Mondal, D. Chowdhury, and S. R. Bhattacharyya, '**Oxygen adsorption by supported size-selected copper clusters: Substrate effects'**, *AIP Conference Proceedings* Vol. **1832**, 080084 (2017);

14. S. Bhattacharjee, D. Lavanyakumar, V. Naik, S. Mondal, S.R. Bhattacharyya, P. Karmakar, '**Nanomechanical properties of ion induced Si ripple patterns',** *Thin Solid Films*,**645**(2017) 265-268

15. Shyamal Mondal and Debasree Chowdhury, '**Rippled nano-templates: a path to size-controlled nanofabrication at room temperature**.' (In communication)

16. Alvaro Lopez Cazalilla, Debasree Chowdhury, Andrey Ilinov, Shyamal Mondal, Pintu Barman, Satya Bhattacharyya, DebabrataGhose, FlyuraDjurabekova, Kai Nordlund, and Scott Norris, '**Pattern formation on ion-irradiated Si surface at energies where sputtering is negligible'**(In communication)