BIO-DATA

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Educational Qualification:

Degree	Year	University/ Institution
Ph.D.	2007	National Chemical Laboratory, Pune
M.Sc. (Physical Chemistry)	2002	Jadavpur University, Kolkata
B.Sc. (Chemistry)	2000	Jadavpur University, Kolkata

Work Experience:

1) Currently working as an **Assistant Professor** in the Department of Chemistry, University of Calcutta, India (From 24/02/2010).

2) Worked as a **Lecturer** in Victoria College, Kolkata, India from 21/12/ 2006 – 23/02/2010.

3**)** Worked as **Post Doctoral Researcher** at the University of Limerick, Limerick, Ireland from May, 2008 till November 2010.

Work Skills:

1) Synthesis and characterization of different nanomaterials, specially in **magnetic and semiconductor nanoparticles/nanorods.**

2) Synthesis of **nano materials based polymer composites**. Incorporation of different nano materials in silocone and epoxy based polymer for different application.

3) Surface modification of nanomaterials.

4) Phase transfer of nanomaterials.

5) Thorough understanding of the theory and the experimental methods in Langmuir-Blodgett **(LB)** studies. Experience in assembly and synthesis of nanomaterials using this system.

Projects undertaken:

1. Received financial assistance from Science & Technology and Biotechnology Department, Government of West Bengal, India on January 2019 [Project no. 31(Sanc)-ST/P/S&T/15G 22/2018].
Topic: Synthesis of nano-hybrids with top-notch functionalities

2. Received financial assistance through DST Fast Track Scheme for Young Scientists on June, 2012. (Project no. SERB/F/1587/2012-13)
Topic: Controlled synthesis and assembly of semiconductor-noble metal hybrid nanomaterials using Langmuir-Blodgett technique

3. Received a project from The Centre for Research on Nanoscience and Nanotechnology (CRNN), University of Calcutta on October, 2011. (Project no. Conv 162/Nano Pr (2011))
Topic: Water based synthesis of Ni-Au core-shell nanomaterials.

List of publications (Till 2018):

No. of paper published in international journals: 35

1. Foam-based synthesis of cobalt nanoparticles and their subsequent conversion to $Co_{core}Ag_{shell}$ nanoparticles by a simple transmetallation reaction
Tanushree Bala, S. K. Arumugam, R. Pasricha, B. L. V. Prasad and M. Sastry
J. Mater. Chem. 14 (2004) 1057. [Impact factor: 6.101]

2. A facile liquid foam based synthesis of nickel nanoparticles and their subsequent conversion to $Ni_{core}Ag_{shell}$ particles: structural characterization and investigation of magnetic properties
Tanushree Bala, S. D. Bhame, P. A. Joy, B. L. V. Prasad and M. Sastry
J. Mater. Chem. 14 (2004) 2941. [Impact factor: 6.101]

3. Phase transfer of oleic acid capped $Ni_{core}Ag_{shell}$ nanoparticles assisted by the flexibility of oleic acid on the surface of silver
Tanushree Bala, A. Swami, B.L.V. Prasad and M. Sastry
J. Colloid Interface Sci. 283 (2005) 422. [Impact factor: 3.172]

4. Solvent-adaptable silver nanoparticles
B. L. V. Prasad, S. K. Arumugam, **Tanushree Bala,** and M. Sastry
Langmuir 21 (2005) 822. [Impact factor: 4.187]

5. Cobalt and magnesium ferrite nanoparticles: preparation using liquid foams as templates and their magnetic characteristics
Tanushree Bala, C. R. Sankar, M. Baidakova, V. Osipov, T. Enoki, P. A. Joy, B. L. V. Prasad and M. Sastry
Langmuir 21 (2005) 10638. [Impact factor: 4.187]

6. Liquid foam based synthesis of magnetic-core noble metal-shell nanoparticles: achievement of greater functionality and stability.
Tanushree Bala, S. D. Bhame, P. A. Joy, B. L. V. Prasad and M. Sastry
Proceedings of the International Conference on Nanomaterials NANO 2005 (2005) 503.

7. Assembly of phase transferred nickel nanoparticles at air-water interface using Langmuir-Blodgett technique
Tanushree Bala, B. Joshi, N. Iyer, M. Sastry and B. L. V. Prasad
J. Nanosci. Nanotechnol. 6 (2006) 3736. [Impact factor: 1.435]

8. $La_{0.7}Sr_{0.3}MnO_3$ nano-particles coated with fatty amine
R. Rajagopal, M. Jani, S. N. Kale, **Tanushree Bala,** R. Pasricha, P. Poddar, B. L. V. Prasad, M. Sastry, D. C. Kundaliya and S. B. Ogale
Appl. Phys. Lett. 89 (2006) 023107. [Impact factor: 3.820]

9. Interaction of different metal ions with carboxylic acid group: A quantitative study
Tanushree Bala, B. L. V. Prasad, M. Sastry, M. Upadhyay Kahaly and U.V. Waghmare
J. Phys. Chem. A 111 (2007) 6183. [Impact factor: 2.771]

10. Ferromagnetic resonance in nanomagnetic metal core and noble metal shell system
Tanushree Bala, T. Enoki and B. L. V. Prasad
J. Nanosci. Nanotechnol. 7 (2007) 3134. [Impact factor: 1.435]

11. Highly monodisperse nickel and cobalt nanoparticles by a facile solution based methodology
D. S. Sidhaye, **Tanushree Bala,** S. Srinath, H. Srikanth, P. Poddar, M, Sastry and B. L. V. Prasad
J. Phys. Chem. C 113 (2009) 3426. [Impact factor: 4.814]

12. Synthesis of catalytically active porous platinum nanoparticles by transmetallation reaction and proposition of the mechanism
R. Pasricha, **Tanushree Bala,** A. Biradar, S. Umbarkar and M. Sastry
Small 5 (2009) 1467. [Impact factor: 7.823]

13. Water dispersible semiconductor nanorod assemblies via a facile phase transfer and their application as fluorescent biomarkers
A. Sanyal, **Tanushree Bala**, S. Ahmed, A. Singh, A.V. Piterina, T.M. McGloughlin, K.M. Ryan
J. Mater. Chem. 19 (2009) 8974. [Impact factor: 6.101]

14. Block copolymer mediated stabilization of sub-5 nm superparamagnetic nickel nanoparticles in an aqueous medium
Tanushree Bala, R. D. Gunning, M. Venkatesan, J. F. Godshell, S. Roy and K. M. Ryan
Nanotechnology 20 (2009) 415603 (11pp) [Impact factor: 3.644]

Highlighted in 'Lab Talk' of nanotechweb.org
[Web link: http://nanotechweb.org/cws/article/lab/40783]

15. Facet specific gold tip growth on semiconductor nanorods assemblies
C. O'Sullivan, R. D. Gunning, C. A. Barrett, A. Singh, H. Geaney, A. Sanyal, S. Ahmad, **Tanushree Bala,** and K. M. Ryan
ECS Transaction, 25 (issue 12) (2009) 17.

16. Titania-silver and alumina-silver composite nanoparticles: synthesis, characterisation and potential as antimicrobial materials
Tanushree Bala, F. Laffir, R. Thornton and G. Armstrong
J. Colloid Interface Sci. 356 (2011) 395. [Impact factor: 3.172]

17. Synthesis of Ag tipped semiconductor nanorods by a facile phase transfer protocol
Tanushree Bala, A. Sanyal, A. Singh, D. Kelly, C. O'Sullivan, F. Laffir and K. M. Ryan
J. Mater. Chem. 21 (2011) 6815 [Impact factor: 6.101]

18. Magnetic Relaxation in capped Ni/Ni$(OH)_2$ Core/Shell nano assemblies.
J. F. Godsell, **Tanushree Bala,** K. M. Ryan and S. Roy
J. Phys. D: Appl. Phys. 44 (2011) 325004 (10pp) [Impact factor: 2.105]

19. Liquid foam: a versatile template for the synthesis of different minerals
Tanushree Bala, A. Sanyal, J. Pant and B. L. V. Prasad,
Adv. Sci. Lett. 11 (2012) 91 [Impact factor: 1.253]

20. Antimicrobial properties of epoxy-polyester powder coatings containing silver- and quaternary ammonium-modified nanoclays
G. Armstrong, R. Thornton, R. J. Russell, C. Keely, F. Laffir, **Tanushree Bala,** M. P. Ryan, R. P. Babu and W. J. Blau
Polym. Bull. 68 (2012) 1951 [Impact factor: 1.332]

21. Silver tip formation on colloidal CdSe nanorods by a facile phase transfer protocol
Tanushree Bala and Kevin M. Ryan
Advanced Materials and Nanotechnology Springer Proceedings in Physics 143 (2013) 21.

22. Fabrication of noble metal-semiconductor hybrid nanostructures using phase transfer
Tanushree Bala, A. Singh, A. Sanyal, C. O'Sullivan, F. Laffir, and K. M. Ryan
Nano Research 6 (2013) 121 [Impact factor: 7.392]

23. Organic–inorganic hybrid: a novel template for synthesis of nanostructured Ag
D. Sardar, B. Naskar, A. Sanyal, S. P. Moulik, and **Tanushree Bala**
RSC Adv., 4 (2014) 3521 [Impact factor: 3.708]

24. Keggin-Lysine hybrid nanostructures in the shape modulation of gold
S. Das, T. Ghosh, B. Satpati, A. Sanyal and **Tanushree Bala**
Mater. Res. Express 1 (2014) 015007 [Impact factor: 1.068]

25. A facile method for the synthesis of Co-core Au-shell nanohybrid
D. Sardar, S. K. Neogi, S. Bandyopadhyay, B. Satpati, R. Jain, C. S. Gopinath and **Tanushree Bala**
New J. Chem. 38 (2014) 4107 [Impact factor: 3.201]

26. Preferential growth of Au on CdSe quantum dots using a Langmuir–Blodgett technique
S. Das, B. Satpati, H. Chauhan, S. Deka, C. S. Gopinath and **Tanushree Bala**
RSC Adv., 4 (2014) 64535 [Impact factor: 3.708]

27. Multifaceted core–shell nanoparticles: superparamagnetism and biocompatibility
D. Sardar, S. K. Neogi, S. Bandyopadhyay, B. Satpati, M. Ahir, A. Adhikary, R. Jain, C. S. Gopinathe and **Tanushree Bala**

New J. Chem., 39 (2015) 8513 [Impact factor: 3.201]

28. Seeding of Au on CdSe/CdS nanoplates using Langmuir–Blodgett technique
S. Das, B. Satpati, H. Chauhan, S. Deka, M. K. Ghosalya, C. S. Gopinath and **Tanushree Bala**
RSC Adv., 6 (2016) 14658 [Impact factor: 3.708]

29. Multiple functionalities of Ni nanoparticles embedded in carboxymethyl guar gum polymer: catalytic activity and superparamagnetism
D. Sardar, M. Sengupta, A. Bordoloi, Md. A. Ahmed, S. K. Neogi, S. Bandyopadhyay, R. Jain, C. S. Gopinath and **Tanushree Bala**
Appl. Surf. Sci. 405 (2017) 231 [Impact factor: 3.150]

30. Facile synthesis of ZnO–Ag nanocomposite and its photocatalytic activity
D. Sardar, J. Maity, M. K. Ghosalya, C. S. Gopinath and **Tanushree Bala**
Mater. Res. Express 4 (2017) 055011 [Impact factor: 1.068]

31. Facile synthesis of Al_2O_3-Pt nanocomposite and its catalytic activity
S. Das, A. Bordoloi, M. K. Ghosalya, C. S. Gopinath and **Tanushree Bala**
Mater. Res. Express 4 (2017) 115002 [Impact factor: 1.068]

32. Deposition of Au nanoparticles inside porous CeO_2 nanocubes using Langmuir–Blodgett technique
S. Das, G. Bhattacharjee, B. Satpati, M. Kumar, S. Deka, M. K. Ghosalya, C. S. Gopinath and **Tanushree Bala**
New J. Chem. 42 (2018) 1379 [Impact factor: 3.201]

33. A facile synthesis strategy to couple porous nanocube of CeO_2 with Ag nanoparticles: An excellent catalyst with enhanced reactivity for 'click reaction' and carboxylation of terminal alkynes
S. Das, P. Mondal, S. Ghosh, B.Satpati, S.Deka, Sk. M. Islam and **Tanushree Bala**
New J. Chem. 42 (2018) 7314 (Accepted) [Impact factor: 3.201]

34. Phase Behavior of GM1-Containing DMPC−Cholesterol Monolayer: Experimental and Theoretical Study
Z. Shahzadi, S. Das, **Tanushree Bala** and C. Mukhopadhyay
Langmuir 34 (2018) 11602 [Impact factor: 3.789]

35. An organic phase transmetallation approach for synthesis of hollow Ni-Au nanocomposites with tunable cavity size
D. Sardar, M. A. Ahmed, S. Bandyopadhyay, M. K. Ghosalya, **Tanushree Bala**
New J. Chem. 42 (2018) 19615 [Impact factor: 3.201]