CURRICULUM VITAE

Dr. Debraj Dhar Purkayastha

C/O Smti. Bhawani Bhattacharjee

House No. 74,

Bhairab Sarani, Malugram, Silchar,

Cachar, Assam

Pin: 788002

Tel: 03842-262645, 09864908746

E-mail: debrajdp@yahoo.com

Educational Qualification

April 2008-December 2014: Doctor of Philosophy in Chemistry, Assam University, Silchar.

Ph.D. Thesis Title: "Novel and Simpler Approaches to the Synthesis of Transition Metal Oxide Nanomaterials".

Supervisor: **Prof. Chira R. Bhattacharjee**

2005: M.Sc. Chemistry (1st Class, 67.81%), Assam University, Silchar.

2003: B.Sc. with Chemistry Honours (1st Class, 65.25%), Cachar College, Silchar.

Research Interests

- Chemical synthesis of transition metal/metal oxide nanomaterials.
- Biosynthesis of gold nanoparticles.
- Chemical synthesis of metal containing liquid crystals.

Instrumental Skills

- Expertise in handling Shimadzu Varian 4300 FT-IR spectrometer.
- Expertise in handling Perkin Elmer Pyris Diamond thermal analyzer.
- Expertise in handling Shimadzu 1601 PC UV-visible scanning spectrophotometer.
- Expertise in handling Shimadzu RF-5301 PC spectrofluorophotometer.
- Expertise in handling Bruker AXS D8-Advance powder X-ray diffractometer.
- Expertise in handling JEOL, JEM2100 transmission electron microscope.
- Expertise in handling Delsa Nano S particle size analyser.

Fellowship

September 2008-September 2013: JRF and SRF under UGC Research Fellowship Scheme for Meritorious Students (RFSMS).

List of Research Publications

[1] C.R. Bhattacharjee, **D.D. Purkayastha**, J.R. Chetia, 'Surfactant assisted low-temperature thermal decomposition route to spherical NiO nanoparticles', ***J. Coord. Chem.***, 2011, **64**, 4434-4442. (Impact factor: 1.547)

[2] C.R. Bhattacharjee, **D.D. Purkayastha**, N. Das, 'Surfactant mediated low temperature thermal decomposition route to zinc oxide nanocrystals', ***Mater. Lett.***, 2012, **86,** 108-111. (Impact factor: 2.224)

[3] C.R. Bhattacharjee, **D.D. Purkayastha**, N. Das, 'Surfactant-free thermal decomposition route to phase pure tricobalt tetraoxide nanoparticles from cobalt(II)-tartrate complex', ***J. Sol-Gel. Sci. Technol***., 2013, **65**, 296-300. (Impact factor: 1.547)

[4] C.R. Bhattacharjee, **D.D. Purkayastha**, N. Das, 'Surfactant-controlled low-temperature thermal decomposition route to monodispersed phase pure tricobalt tetraoxide nanoparticles', ***Mater. Lett***., 2013, **90**, 111-114. (Impact factor: 2.269)

[5] C.R. Bhattacharjee, **D.D. Purkayastha**, N. Das, 'Surfactant-mediated low-temperature synthesis of phase pure multiply twinned copper nanoparticles under non-inert condition via thermal decomposition of copper malonate', ***Mater. Lett***., 2013, **94**, 108-111. (Impact factor: 2.269)

[6] **D.D. Purkayastha**, B. Sarma, C.R. Bhattacharjee, 'Surfactant-assisted low-temperature synthesis of monodispersed phase pure cubic CoO solid nanoparallelepipeds via thermal decomposition of cobalt(II) acetylacetonate', ***Mater. Lett***., 2013, **107**, 71-74. (Impact factor: 2.269)

[7] **D.D. Purkayastha**, N. Das, C.R. Bhattacharjee, 'Synthesis and antioxidant activity of cupric oxide nanoparticles accessed via low-temperature solid state thermal decomposition

of bis(dimethylglyoximato)copper(II) complex', ***Mater. Lett***., 2014, **123**, 206-209. (Impact factor: 2.269)

[8] **D.D. Purkayastha**, B. Sarma, C.R. Bhattacharjee, 'Surfactant controlled low-temperature thermal decomposition route to zinc oxide nanorods from zinc(II) acetylacetonate monohydrate', ***J. Lumin***., 2014, **154**, 36-40. (Impact factor: 2.367)

[9] C.R. Bhattacharjee, G. Das, **D.D. Purkayastha**, P. Kanoo, P. Mondal, 'Vanadyl(IV) complexes of 4-alkoxy substituted [N,O] donor salicylaldimine Schiff bases derived from chloro-/nitroaniline: synthesis, mesomorphism, and DFT study', ***J. Coord. Chem***., 2011, **64**, 2746-2760. (Impact factor: 1.547)

[10] C.R. Bhattacharjee, G. Das, **D.D. Purkayastha**, P. Mondal, 'Synthesis, characterisation and mesomorphic properties of a homologous series of oxovanadium(IV) complexes containing a bidentate [N,O] donor Schiff base mesogen', ***Liq. Cryst***., 2011, **38**, 711-727. (Impact factor: 1.858)

[11] B. Sharma, **D.D. Purkayastha**, S. Hazra, L. Gogoi, C.R. Bhattacharjee, N.N. Ghosh, J. Rout, 'Biosynthesis of gold nanoparticles using a freshwater green alga, *Prasiola crispa*', ***Mater. Lett***., 2014, **116**, 94-97. (Impact factor: 2.269)

[12] B. Sharma, **D.D. Purkayastha**, S. Hazra, M. Thajamanbi, C.R. Bhattacharjee, N.N. Ghosh, J. Rout, 'Biosynthesis of fluorescent gold nanoparticles using an edible freshwater red alga, *Lemanea fluviatilis* (L.) C.Ag. and antioxidant activity of biomatrix loaded nanoparticles', ***Bioproc. Biosyst. Eng***., 2014, **37**, 2559-2565. (Impact factor: 1.823)

[13] B. Paul, B. Bhuyan, **D.D. Purkayastha**, M. Dey, S.S. Dhar 'Green synthesis of gold nanoparticles using *Pogestemon benghalensis (B) O. Ktz.* leaf extract and studies of their photocatalytic activity in degradation of methylene blue' ***Mater. Lett***., 2015, **148**, 37-40. (Impact factor: 2.489)

[14] A. Nath, **D.D. Purkayastha**, M. Sharon, C.R. Bhattacharjee, 'Catalyst free low temperature synthesis and antioxidant activity of multiwalled carbon nanotubes accessed from ghee, clarified butter of cow's milk' ***Mater. Lett***., 2015, **152**, 36-39. (Impact factor: 2.489)

[15] B. Paul, B. Bhuyan, **D.D. Purkayastha**, S.S. Dhar, 'Facile synthesis of α-Fe_2O_3 nanoparticles and their catalytic activity in oxidation of benzyl alcohols with periodic acid' ***Catal. Commun***., 2015, **69**, 48-54. (Impact factor: 3.699)

[16] B. Paul, B. Bhuyan, **D.D. Purkayastha**, S.S. Dhar, S. Behera, 'Facile synthesis of spinel $CuCr_2O_4$ nanoparticles and studies of their photocatalytic activity in degradation of some selected organic dyes' ***J. Alloy. Compd***., 2015, **648**, 629-635. (Impact factor: 2.999)

List of Seminar/Conference Papers

[1] C.R. Bhattacharjee, M. Sengupta, **D.D. Purkayastha**, A. Nath, S. Bhattacharjee, 'Chemical synthesis and antimicrobial activity of NiO and ZnO nanomaterials', **International Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2009)**, organized by Center for Nanotechnology, Indian Institute of Technology Guwahati, **December 9-11, 2009.**

[2] C.R. Bhattacharjee, **D.D. Purkayastha**, N. Das, 'Synthesis and characterization of copper nanoparticles via thermal decomposition of copper malonate', **2nd International Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2011)**, organized by Department of Physics and Center for Nanotechnology Nanotechnology, Indian Institute of Technology Guwahati, **December 8-10, 2011.**

[3] C.R. Bhattacharjee, **D.D. Purkayastha**, M. Ali, 'Thermal decomposition route to cobalt oxide nanoparticles from [bis(glycinato)cobalt(II)]-oleylamine complex', **National Seminar**

on Current Trends in Condensed Matter Physics, organized by Department of Physics, Assam University, Silchar, **February 3-5, 2011.**

[4] C.R. Bhattacharjee, **D.D. Purkayastha**, M. Ali, 'Synthesis and characterization of cobalt oxide nanoparticles by thermal decomposition of [bis(phenylalaninato)cobalt(II)]-oleylamine complex', **National Workshop on Emerging Trends in Nano Chemistry 2011**, organized by Department of Chemistry, St. Anthony College, Shillong, **September 20-21, 2011.**

[5] C.R. Bhattacharjee, **D.D. Purkayastha**, N. Das, 'Surfactant mediated low temperature thermal decomposition route to zinc oxide nanocrystals', **International Conference on Supramolecules and Nanomaterials-Research and Applications**, jointly organized by Department of Chemistry Gujarat University and Department of Science and Technology, Government of Gujarat, India, **February 6-8, 2012.**

[6] **D.D. Purkayastha**, B. Sarma, C.R. Bhattacharjee, 'Surfactant-assisted low-temperature thermal decomposition of zinc(II) acetylacetonate monohydrate as an access to zinc oxide nanorods', **UGC Sponsored National Seminar on Emerging Areas of Research and Development in Chemical and Physical Sciences in North East India**, organized by Department of Chemistry and Physics, Srikishan Sarda College, Hailakandi, Assam, India, **October 16-18, 2012.**

[7] **D.D. Purkayastha**, N. Das, C.R. Bhattacharjee, 'Synthesis, characterization and antioxidant activity of cupric oxide nanoparticles accessed via thermal decomposition of bis(dimethylglyoximato)copper(II) complex', **International Conference on Material Science (ICMS 2013),** organized by Department of Physics, Tripura University, Suryamaninagar, Tripura, India, **February 21-23, 2013.**

[8] **D.D. Purkayastha**, B. Sarma, C.R. Bhattacharjee, 'Surfactant-assisted low-temperature thermal decomposition of nickel(II) acetylacetonate as an access to monodispersed Ni/NiO

nanoparticles', **UGC Sponsored National Seminar on Advances in Research in Physical Sciences**, organized by Cachar College, Silchar, Assam, **March 25-26, 2013.**

[9] **D.D. Purkayastha**, S. Kairi, S. Hazra, N.N. Ghosh, C.R. Bhattacharjee, 'Surfactant-assisted low-temperature thermal decomposition of copper(II) acetylacetonate as an access to copper nanoparticles', **Indo-UK International Workshop on Advanced Materials and their Applications in Nanotechnology (AMAN 2014)**, organized by Birla Institute of Technology and Science Pilani, KK Birla Goa Campus, India jointly with University of Leeds, UK, **May 17-19, 2014.**

[10] **D.D. Purkayastha**, S. Kairi, C.R. Bhattacharjee, 'Surfactant-assisted low-temperature thermal decomposition of zinc(II) salicylate as an access to zinc oxide nanoparticles' **Regional Level Seminar on Modern Research in Chemical Sciences**, organized by Department of Chemistry, Karimganj College, Assam, **January 17, 2015.**

[11] Attended **Lecture Series on NanoScience and Technology,** organized by Department of Physics, Assam University, Silchar, **January 16-18, 2014.**

[12] Attended **International Conference on Coordination Chemistry & Organometallic Chemistry (ICCOC 2009),** organized by Department of Chemistry, Bharathiar University, Coimbatore, **March 19-20, 2009.**

[13] Attended **International Conference on Drug Discovery and Nanotechnology,** organized by Department of Chemistry, Yeshwant Mahavidyalaya, Nanded (Maharashtra), **January 27-29, 2008.**

[14] Attended **12th National Liquid Crystal Conference**, organized by Department of Chemistry, Assam University, Silchar and Indian Liquid Crystal Society, **December 19-21, 2005.**

References

1. Prof. Chira R. Bhattacharjee
   Professor
   Department of Chemistry,
   Assam University, Silchar
   Silchar-788011
   E-mail: crbhattacharjee@rediffmail.com

2. Dr. V. Madhurima
   Associate Professor
   Department of Physics,
   Central University of Tamilnadu
   Thiruvarur, Tamilnadu-610001
   E-mail: madhurima.v@gmail.com

3. Dr. Siddhartha Sankar Dhar
   Assistant Professor
   Department of Chemistry,
   NIT Silchar
   Silchar-788010
   Email: ssd_iitg@hotmail.com