

CURRICULUM VITAE

Name : **DR. NILKAMAL MAITI**
Designation : **Associate Professor**
Department of Chemistry(UG & PG)
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Educational Qualification : **M.Sc.; Ph.D.**
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➤ Area of teaching:

Selected areas of Inorganic Chemistry; Specially Atomic Structure, Chemical Bonding, redox reactions, Coordination Chemistry (VBT, CFT, MOT), Organometallic Chemistry, Catalysis, Reaction Mechanism, Solid state Chemistry, Inorganic spectroscopy (UV-vis; IR; NMR, EPR, XPS) in B.Sc (Honours) and PG level.

➤ List of Papers published:

- i) **N. Maiti.** Growth of rod-shaped Sb₂S₃ Nano Compounds under mild reaction condition. *Global Journal for Research Analysis*,; 2017, **6**, 429-431; *Impact Factor*: 4.547; ISSN No.: 2277-8160
- ii) **N. Maiti.** Synthesis and Characterization of Nanosize Sb₂Se₃ from a Single Source Precursor. *Prajanan O Sadhona – A Science Annual*, 2016, **3**, 51-58; ISSN No.: 2348-7410.
- iii) S. K. Giri and **N. Maiti.** Synthesis and characterization of bis-(3-phenyldithiocarbazato)cadmium(II): a new single source precursor for preparation of CdS nanocompounds. *Global Journal for Research Analysis*,; 2016, **5**, 209-211; *Impact Factor*: 3.62; ISSN No.: 2277-8160
- iv) **N. Maiti**, S. H. Im, Y. H. Lee and S. I. Seok. Urchin like nanostructure of single-crystalline nanorods of Sb₂S₃ formed at mild reaction condition. . *ACS Appl. Mater. Interfaces*, 2012, **4**, 4787. *Impact Factor*: 6.723; ISSN No.: 1944-8244.
- v) **N. Maiti**, S. H. Im, C. S. Lim and S. I. Seok, *Dalton Trans.* A chemical precursor for depositing Sb₂S₃ onto mesoporous TiO₂ layers in nonaqueous media and its application to solar cells. 2012, 11569. *Impact Factor*: 4.197; ISSN No.: 1477-9234.
- vi) C. S. Lim, S. H. Im, J. H. Ree, Y. H. Lee, H. J. Kim, **N. Maiti**, Y. K. Kang, J. A. Chang, Md. K. Nazeeruddin, M. Grätzel and S. I. Seok *J. Mater. Chem.* Hole-conducting mediator for stable

- Sb₂S₃-sensitized photoelectrochemical solar cells. **2012**, 22, 1107. *Impact Factor*: 6.626; ISSN No.: 1364-5501.
- vii)** N. Maiti, S. H. Im, Y. H. Lee, C. H. Kim and S. I. Seok, *Cryst. Solvent-assisted growth of Sb₂Se₃ nanocompounds from a single-source precursor under mild reaction conditions.* **Eng. Comm.**, 2011, **13**, 3767. *Impact Factor*: 4.034; ISSN No.: 1466-8033.
- viii)** S. H. Im, C. S. Lim, J. A. Chang, Y. H. Lee, N. Maiti, H. J. Kim, Md. K. Nazeeruddin, M. Grätzel and S. I. Seok, **Nano letters.** Toward Interaction of Sensitizer and Functional Moieties in Hole-transporting Materials for Efficient Semiconductor-sensitized Solar Cells. 2011, 11, 4789. *Impact Factor*: 13.592; ISSN No.: 1530-6984.
- ix)** O. A. Egorova, O. G. Tsay, S. Khatua, B. Meka, N. Maiti, M. K. Kim, S. J. Kwon, J. O. Huh, D. Bucella, S. O. Kang, J. Kwak and D. G. Churchill. Synthetic, Cyclic Voltammetric, Structural, EPR, and UV-Vis Spectroscopic Studies of Thienyl-Containing meso-A(2)B-cor(Cr(V) horizontal lineO) Systems: Consideration of Three Interrelated Molecular Detection Modalities. **Inorg. Chem.**, 2010, 49 (2), 502; ISSN No.: 0020-1669
- x)** Kibong Kim, Inkoo Kim, Nilkamal Maiti, Seong Jung Kwon, Daniela Bucella, Olga A. Egorova, Yoon Sup Lee, Juhyoun Kwak and David G. Churchill A study of nerve agent model organophosphonate binding with manganese-A₂B-corrole and -A₂B₂-porphyrin systems.; **Polyhedron**, 2009, 28, 2418-2430 ; ISSN No.: 0277-5387.
- xi)** Nilkamal Maiti, Junseong Lee, Seong Jung Kwon, Juhyoun Kwak, Youngkyu Do, David G. Churchill. Synthetic, crystallographic and electrochemical studies of thienyl-substituted corrole complexes of copper and cobalt. **Polyhedron**, 2006, 25, 1519; ISSN No.: 0277-5387.
- xii)** Nilkamal Maiti, Junseong Lee, Youngkyu Do, David G. Churchill, Hack Soo Shin..Synthesis and structures of thienyl-substituted 5-dipyrromethane isomers. **Journal of Chemical Crystallography**, 2005, 35, 949; ISSN No.: 1572-8854.
- xiii)** Reactions of 2-(arylozo) aniline with RhCl₃: Synthesis and structure of new cyclometallated complexes of Rh(III) and recognition of RhCl₃ assisted azo(-N=N-) cleavage. Jahar Lal Pratihari, Nilkamal Maiti, Surajit Chattopadhyay; **Inorg. Chem.** 2005. 44. 6111; ISSN No.: 0020-1669.
- xiv)** A strategy of Pd(II) assisted C-H activation in 2-alkylamino azobenzene ligands: Syntheses, characterisation and structure of a new family of orthopalladated complexes. Jahar Lal Pratihari, Nilkamal Maiti, Poulomi Pattanayak, Surajit Chattopadhyay. **Polyhedron**, 2005, 24, 1953; ISSN No.: 0277-5387.
- xv)** Nilkamal Maiti, Surajit Chattopadhyay New Azoiminato Complexes of Bivalent Platinum: Syntheses Characterisation and Structure.; **Indian J. Chem.** 2003, 42A, 2327; ISSN No.: 3294-4404.
- xvi)** Nilkamal Maiti, Bimal Kumar Dirghangi, Surajit Chattopadhyay; Diazoketiminato Complexes of Au(III): Syntheses, Characterisation and Structure. **Polyhedron**, 2003, 22, 3109; ISSN No.: 0277-5387.
- xvii)** Nilkamal Maiti, Satyanarayan Pal, Surajit Chattopadhyay. Reaction of 2-(Phenylazo)aniline with Na₂PdCl₄: Formation of a 2-(Phenylazo)aniline Complex of Bivalent Palladium.; **Inorg. Chem.** 2001, 40, 2204; ISSN No.: 0020-1669.

➤ **List of Poster/ Oral Presentations:**

- i. **Recent Trends of Research in Chemistry (RTRC – 2011)**, [Department of Chemistry, Midnapore College, Midnapore, West Bengal, India] "*Solvent-assisted growth of Sb₂Se₃ nanocompounds from a single source precursor under mild reaction conditions*", (Poster).
- ii. **"2005 International Chemical Congress of Pacific Basin Societies December 15- 20, 2005 [Honolulu, Hawaii USA]**, "*Novel thienyl-substituted Cobalt and Copper corrole complexes*," (Poster).
- iii. **"2005 Spring, The 95th National Meeting of the Korean Chemical Society" Inha University (Incheon, Republic of Korea) 2005**, "*Novel thienyl-substituted Cobalt and Copper corrole complexes*," (Poster).
- iv. **"2005 Chemistry Symposium of KAIST_KYOTO University"** Korea Advanced Institute of Science and Technology (Daejeon, Republic of Korea) 2005. "*Novel thiophene-substituted Cobalt and Copper corrole complexes*," (Oral and Poster).
- v. **"2005 BK21 Conference"** Korea Advanced Institute of Science and Technology (Daejeon, Republic of Korea) 2005. "*Novel thiophene-substituted Cobalt and Copper corrole complexes*," (Poster).
- vi. **"Modern Trend In Inorganic Chemistry (X)"** Indian Institute of Technology (Bombay, India) December, 2003. "*Diazoketiminato Chelate of Ruthenium: Synthesis, Molecular and Electronic Structure*," (Poster).
- vii. **"Modern Trend In Inorganic Chemistry (IX)"**, Indian Association for the Cultivation of Science (Kolkata, India), December, 2001. "*Synthesis and structure of new Pd(II) and Pt(II) Azoimine Complexes*," (Poster).

➤ **List of Books/chapters in book published:**

- i. **N. Maiti**; Determination of water quality; *Environmental Awareness: An Introspection*; 09/2016, from Midnapore College (Autonomous), Midnapore in association with Arati Mitra for Avenel press, Burdwan. [ISBN: 978-93-80736-26-6].
- ii. **N. Maiti**; Synthesis of Novel Manganese-corrole: Binding Study with Organophosphate compounds; *Recent Trends in Research in Chemical Sciences*; published by Ghatal R. S. Mahavidyalaya 2016; pp 222 from Ghatal R. S. Mahavidyalaya; [ISBN: 978-93-5267-187-8].
- iii. **N. Maiti**; Effect of Arsenic on Environment; *Fluorosis and Arsenicosis: A Global Problem*; NECTAR, Kolkata; 2016; pp 154, from Contai P. K. College [ISBN: 978-93-84241-08-7].

- iv. **N. Maiti**, Junseong Lee, Seong Jung Kwon, Juhyoun Kwak, Youngkyu Do, David G. Churchill. "Novel thienyl-substituted cobalt and copper corrole complexes". **The 13th Korea-Japan Joint Symposium on Organometallic and Coordination Chemistry November 2005, 122.**

➤ **Sponsor Project handled:**

UGC Minor Project entitled 'Eco-friendly synthesis of one dimensional (1D) nano-structural composite materials from single-source precursor under mild reaction condition and their uses as photoelectrode and light harvester' (2017-ongoing).

➤ **Research experiences:**

- i) Foreign Post-Doctoral Trainee, Under Professor Sang Il Seok, Global Research Laboratory, Advanced Materials Division, KRICT, Yuseong-Gu, Daejeon, 305-600, Republic of Korea.
- (A) Investigation of nano sized Sb_2S_3 , Sb_2Se_3 and Sb_2Se_{3-x} ($0 < x < 3$) (Solid and Liquid type).
- (B) Preparation of Cobalt electrolyte of dye sensitized solar cells (Liquid type).
- ii) BK21 Postdoctoral Researcher; Under Professor David G. Churchill, Department of Chemistry, KAIST, 373-1 Guseong-dong, Daejeon 305-701, Korea.
- (A) Inert atmosphere Chemistry, Schlenk Line, Dry Box techniques. NMR, IR, UV-vis spectroscopic characterizations and X-ray crystallography.
- (B) Catalytic epoxidation reactions.
- (C) Chemical sensor.
- iii) (A) Synthesis of charge delocalized diazoketiminato complexes of Pd, Pt, Au and Ru.
- B) Characterization using spectroscopic methods (IR, UV-vis, NMR, EPR, Magnetic susceptibility, Elemental analysis etc) and single crystal X-ray crystallography.
- (C) Examination of electron transfer properties.
- (D) Performance of empirical theoretical studies to rationalize electronic structure.

➤ **PATENT:**

- i. **David G. Churchill, Nilkamal Maiti, Shin Hei Choi.** "Novel vinyl-substituted metallocorrole catalysts and method thereof" Patent No. KR-2007-0049466.

➤ **Associated with any other Organisation:**

i) **Life Member** of “Association of Chemistry Teachers” (ACT) since **2015**

➤ **Awards / Recognition:**

- i. **2009-2010**, “Foreign Post-Doctoral Trainee” fellowship, Korea Research Institute of Chemical Technology, Sinseong-dong, Youseong-Gu, Daejeon , Republic of Korea.
- ii. **2004-2006**, BK21 Fellowship, Korea Advanced Institute of Science and Technology, Daejeon 305-701, Republic of Korea.
- iii. **2002–2004**, Senior Research Fellowship, Council of Scientific and Industrial Research, New Delhi, India.
- iv. **1999–2002**, Junior Research Fellowship, Council of Scientific and Industrial Research, New Delhi, India.
- v. **2001**, National Eligibility Test (NET), India.
- vi. **1999**, Graduate Aptitude Test in Engineering (GATE-99, Chemistry), India.

