DR. SWARUP KUMAR MAJI (Ph.D)
Assistant Professor, Department of Chemistry
Khatra adibasi Mahavidyalaya, Khatra
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EDUCATION

PhD in Science (2008-2012): Thesis entitled, *"Synthesis, characterization and catalytic properties of semiconductor metal oxide and metal sulfide nanomaterials".* Indian Institute of Engineering Science and Technology, West Bengal, India.

Masters of Science (2006-2008): Applied Chemistry (Inorganic chemistry as Major)**;** Indian Institute of Engineering Science and Technology, Shibpur, West Bengal, India. M.Sc-Dissertation "*Studies on Metal Thio-carboxylates: Precursor for Metal Sulphide Nanomaterials*"**.**

Bachelor of Science (2003-2006): Honors in Chemistry with Physics and Mathematics, The University of Burdwan, West Bengal, India.

RESEARCH EXPERIENCE

Post-Doctoral Fellow: February 2013 – September 2014: Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences, ***Nanyang Technological University,*** **Singapore**.

Senior Research Fellow (April 2012 – September 2012): Funned by Council of Scientific and Industrial Research (CSIR), India, at *Indian Institute of Engineering Science and Technology,* Shibpur, India.

Junior Research Fellow (January 2010 – March 2012): University Grants Commission (UGC), India, funded Rajiv Gandhi National Fellowship Scheme (RGNFS), at *Indian Institute of Engineering Science and Technology*, West Bengal, India.

Project Fellow (August 2008 - December 2010): UGC funded Project at *Indian Institute of Engineering Science and Technology*, West Bengal, India.

TEACHING EXPERIENCE

Assistant Professor (1st April 2015): *"Khatra Adibasi Mahavidyalaya"*, Recognized by Bankura University, West Bengal, India.

RESEARCH INTERESTS

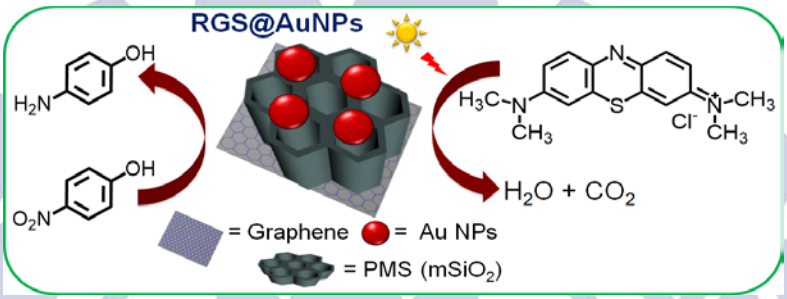
- Designee and fabrication of hybrid nanostructures.
- Biomedical Science/Engineering: Bio-imaging, detection and therapy of cancer cells.
- Nanomaterials based bio- and chemo- sensors.

- Nanostructures as energy material for catalytic/photocatalytic activities.

PUBLICATIONS

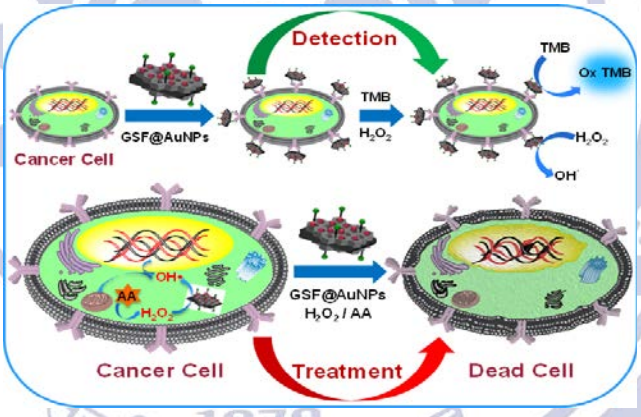
A. Corresponding Authorship Publications:

1. Two-dimensional nanohybrid (RGS@AuNPs) as an effective catalyst for reduction of 4-nitrophenol and photo-degradation of methylene blue dye. **S.K. Maji,*** A. Jana. *New J. Chem. 41 (2017) 3326 – 3332.* **IF = 3.269**

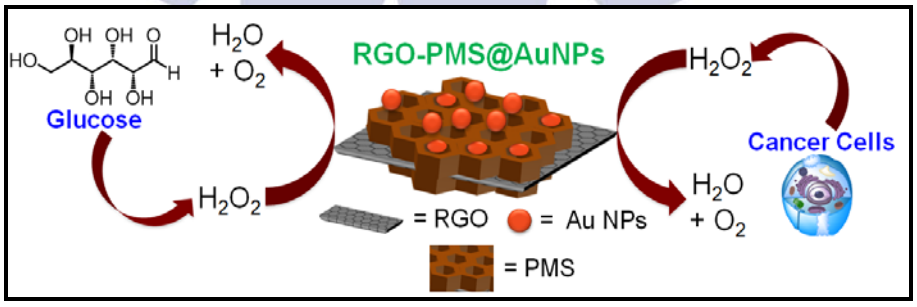


B. First Authorship Publications:

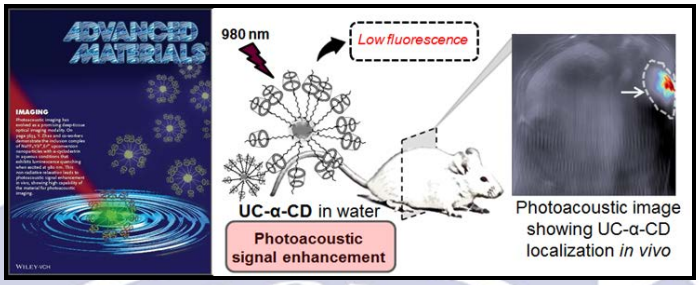
1. Cancer cell detection and therapeutics using peroxidase-active nanohybrid of gold nanoparticle-loaded mesoporous silica-coated graphene. **S.K. Maji,** A.K. Mandal, K.T. Nguyen, P. Borah, Y. Zhao. *ACS App. Mater. Interfaces, 7 (2015) 9807–9816*. **IF = 7.504**



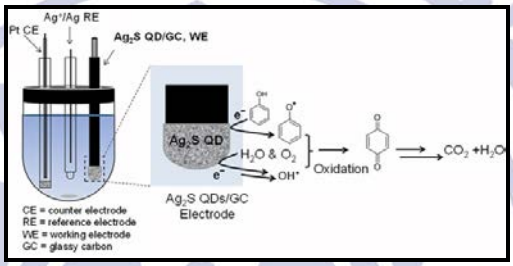
2. Immobilizing gold nanoparticles in periodic mesoporous silica covered reduced graphene oxide: A hybrid material for cancer cell detection through hydrogen peroxide sensing. **S.K. Maji,** S. Sreejith, A.K. Mandal, M. Xing, Y. Zhao. *ACS Appl. Mate. Interfaces, 6 (2014) 13648–13656*. **IF = 7.504**



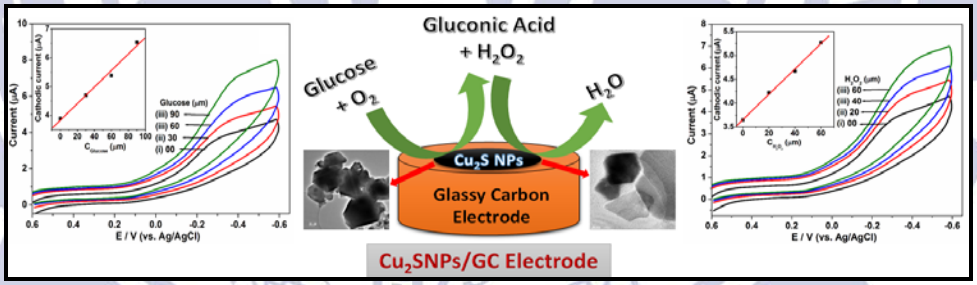
3. Upconversion nanoparticles as a contrast agent for photoacoustic imaging in live mice. **S.K. Maji,** S. Sreejith, J. Joseph, M. Lin, T. He, T. Yan, H.D. Sun, S. W. Yu, Y. L. Zhao. *Adv. Mater., 26 (2014) 5633–5638*. **IF = 19.791** **[Highlighted as a Frontispiece]**



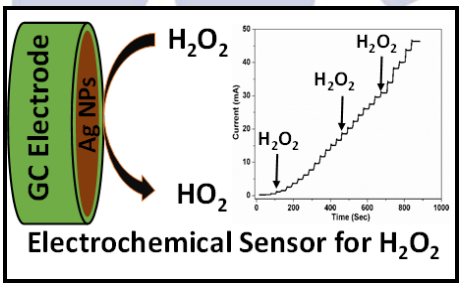
4. Synthesis of Ag_2S quantum dots by a single-source precursor: an efficient electrode material for rapid detection of phenol. **S.K. Maji,** S. Sreejith, A.K. Mandal, A.K. Dutta, Y. Zhao**.** *Anal. Methods, 6 (2014) 2059 – 2065.* **IF = 1.915**



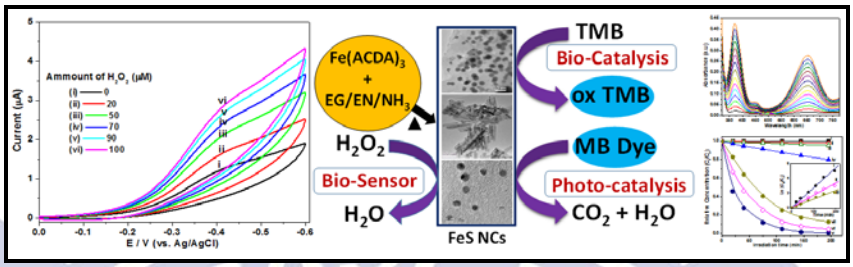
5. A novel amperometric biosensor for hydrogen peroxide and glucose based on cuprous sulfide nanoplates. **S.K. Maji**, A.K. Dutta, G.R. Bhadu, P. Paul, A. Mondal, B. Adhikary. *J. Mater. Chem. B, 1 (2013) 4127 – 4134.* **IF = 4.543**



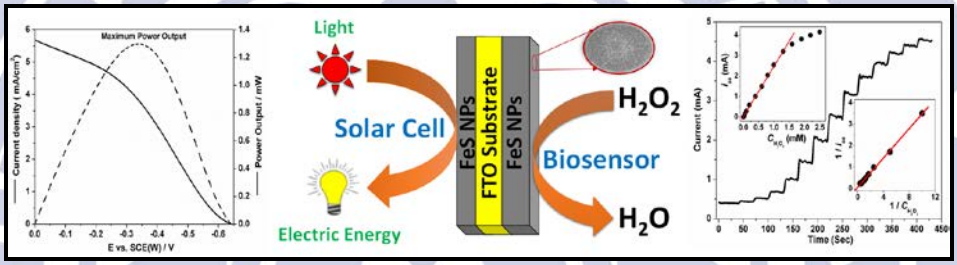
6. Electrocatalytic activity of silver nanoparticles modified glassy carbon electrode as amperometric sensor for hydrogen peroxide. **S.K. Maji**, A.K. Dutta, D.N. Srivastava, P. Paul, A. Mondal, B. Adhikary, U. Adhikary. *J. Nanosci. Nanotechnol. 13 (2013) 4969 – 4974.* **IF = 1.483**



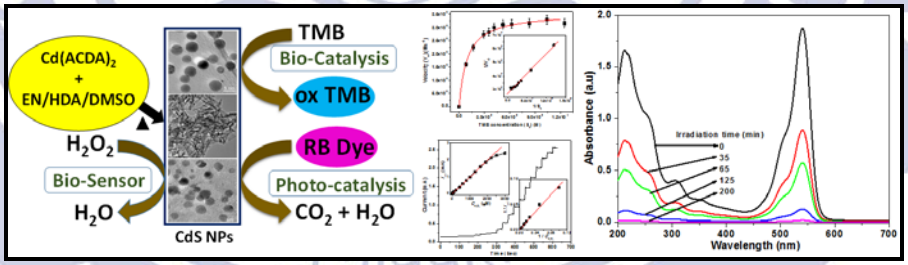
7. Synthesis and characterization of FeS nanoparticles obtained from a dithiocarboxylate precursor complex and their photocatalytic, electrocatalytic and biomimic peroxidase behavior. **S.K. Maji**, A.K. Dutta, P. Biswas, D.N. Srivastava, P. Paul, A. Mondal, B. Adhikary. *Appl. Catal. A: Gen., 419 – 420 (2012) 170 – 177.* **IF = 4.339**



8. Nanocrystalline FeS thin film used as an anode in photo-electrochemical solar cell and as hydrogen peroxide sensor. **S.K. Maji**, A.K. Dutta, P, Biswas, B. Karmakar, A. Mondal, B. Adhikary. *Sensor Actuat. B: Chem., 166 – 167 (2012) 726 – 732.* **IF = 5.401**

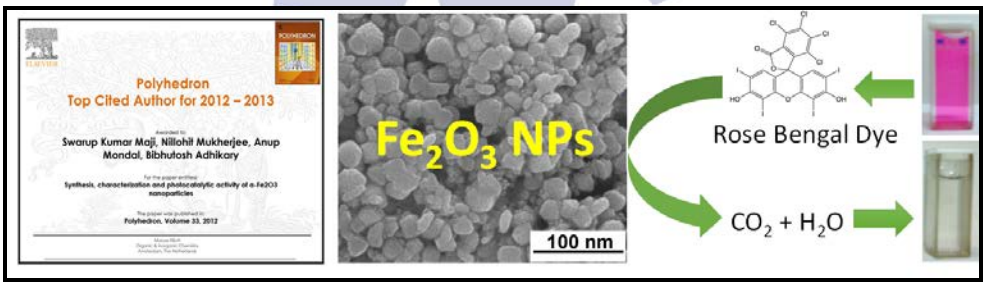


9. Peroxidase-like behavior, amperometric biosensing of hydrogen peroxide and photocatalytic activity by cadmium sulfide nanoparticles. **S.K. Maji**, A.K. Dutta, D.N. Srivastava, P. Paul, A. Mondal, B. Adhikary. *J. Mol. Cat. A: Chem., 358 (2012) 1 – 9.* **IF = 4.211**

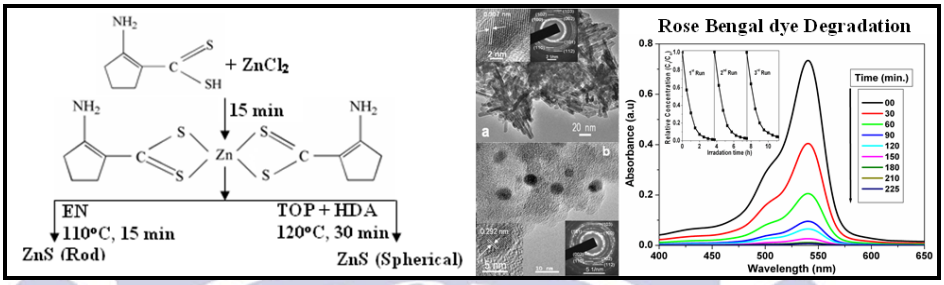


10. Synthesis, characterization and photocatalytic activity of α-Fe_2O_3 nanoparticles. **S.K. Maji**, N. Mukherjee, A. Mondal, B. Adhikary. *Polyhedron, 33 (2012) 145 – 149.* **IF = 1.926**

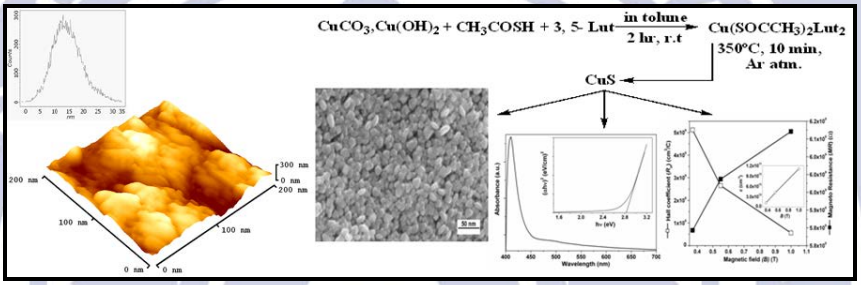
[Highlighted as a top cited author for 2012-2013]



11. Effective photocatalytic degradation of organic pollutant by ZnS nanocrystals synthesized via thermal decomposition of single-source precursor. **S.K. Maji**, A.K. Dutta, D.N. Srivastava, P. Paul, A. Mondal, B. Adhikary. *Polyhedron, 30 (2011) 2493 – 2498.* **IF = 1.926**

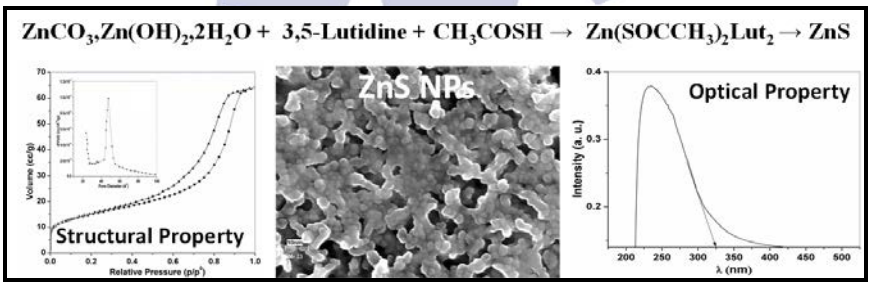


12. Deposition of nanocrystalline CuS thin film from a single precursor: Structural, optical and electrical properties. **S.K. Maji**, N. Mukherjee, A.K. Dutta, D.N. Srivastava, P. Paul, B. Karmakar, A. Mondal, B. Adhikary. *Mater. Chem. Phys., 130 (2011) 392 – 397.* **IF = 2.084**

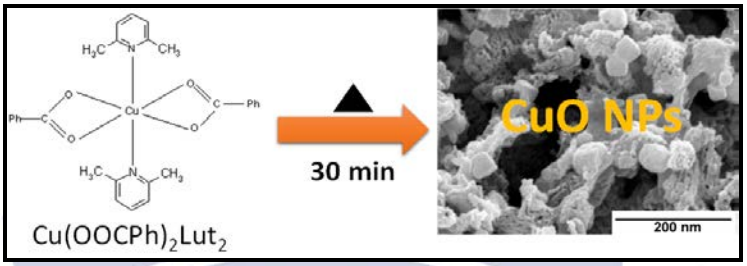


13. Synthesis and characterization of nanocrystalline and mesoporous zinc sulphide via zinc thiobenzoate-lutidine single precursor. **S.K. Maji**, N. Mukherjee, A. Mondal, B. Adhikary, B. Karmakar, S. Dutta. *Inorg. Chim. Acta, 371 (2011) 20 – 26.* **IF = 2.002**

14. Synthesis of nanocrystalline and mesoporous zinc sulphide from a single precursor $Zn(SOCCH_3)_2Lut_2$ complex. **S.K. Maji**, N. Mukherjee, A. Mondal, B. Adhikary, B. Karmakar. *J. Phys. Chem. Solid, 72 (2011) 784 – 788.* **IF = 2.059**



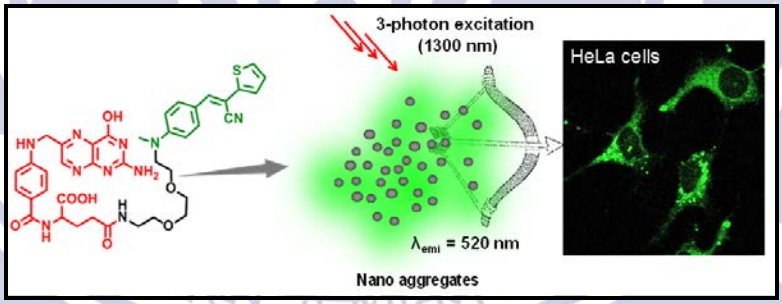
15. Chemical synthesis of mesoporous CuO from a single precursor: Structural, optical and electrical properties. **S.K. Maji,** N. Mukherjee, A. Mondal, B. Adhikary, B. Karmakar. *J. Solid State Chem., 183 (2010) 1900 – 1904.* **IF = 2.316**



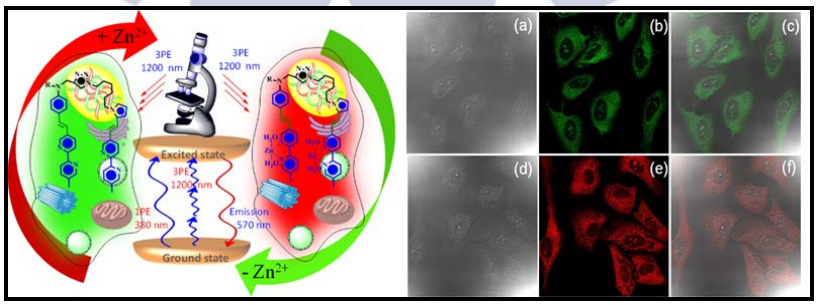
B. Contributing Publications:

16. Observation of enhanced photocurrent response in M-$CuInS_2$ (M = Au, Ag) hetero-nanostructures: phase selective synthesis and application. A. Ghosh, N. Saha, A. Sarkar, A.K. Dutta, **S.K. Maji**, B. Adhikary. *New J. Chem. 41 (2017) 692 – 701*. **IF = 3.269**

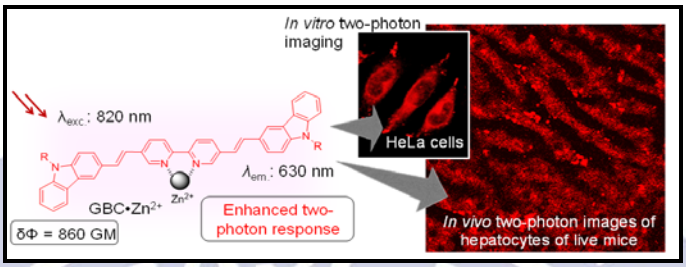
17. Three-photon excited luminescence from unsymmetrical cyanostilbene aggregates: Morphology tuning and targeted bio-imaging. A.K. Mandal, S. Sreejith, T. He, **S.K. Maji**, X.-J. Wang, J. Joseph, Y. Li, H.D. Sun, Y. Zhao. *ACS. Nano, 9 (2015) 4796–4805*. **IF = 13.942**



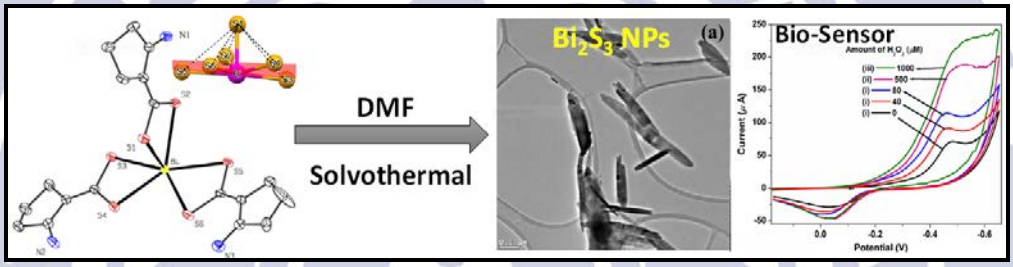
18. A three-photon probe with Dual emission colours for imaging of zinc(II) ion in living cells. A. K. Mandal, T. He, **S.K. Maji**, H. Sun, Y. Zhao. *Chem. Commun., 50 (2014) 14378-14381*. **IF = 6.319**



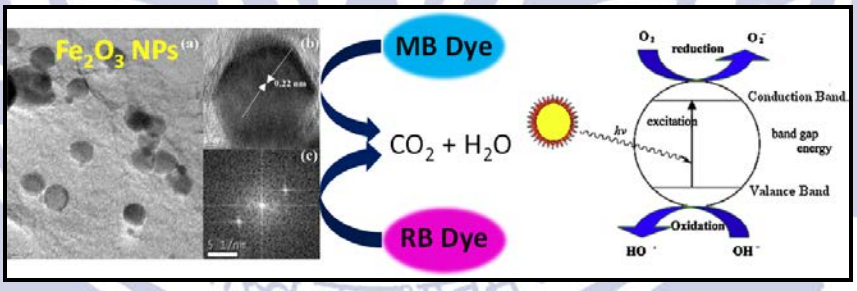
19. A ratiometric fluorescent molecular probe with enhanced two-photon response upon Zn^{2+} binding for *in vitro* and *in vivo* bioimaging. K.P. Divya, S. Sreejith, P. Ashokkumar, K. Yuzhan, Q. Peng, **S.K. Maji**, Y. Tong, H. Yu, Y. Zhao, P. Ramamurthy, A. Ajayaghosh. *Chem. Sci., 5 (2014) 3469-3474*. **IF = 8.668**



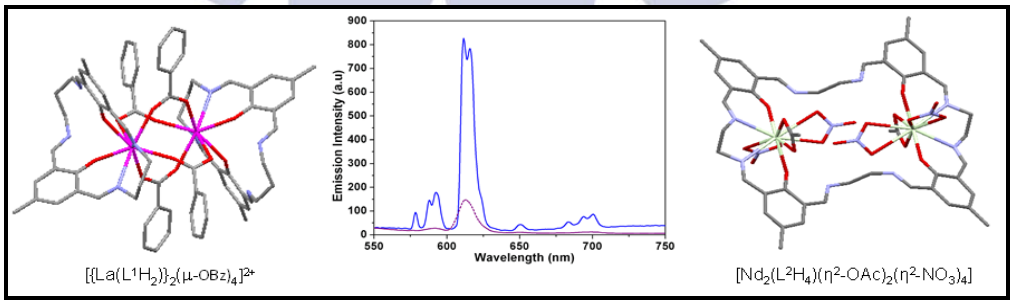
20. Single source precursor approach to the synthesis of Bi_2S_3 nanoparticles: A new amperometric hydrogen peroxide biosensor. A.K. Dutta, **S.K. Maji**, K. Mitra, A. Sarkar, N. Saha, A.B. Ghosha, B. Adhikary. *Sensor Actuat. B: Chem., 192 (2014) 578 – 585.* **IF = 4.758**



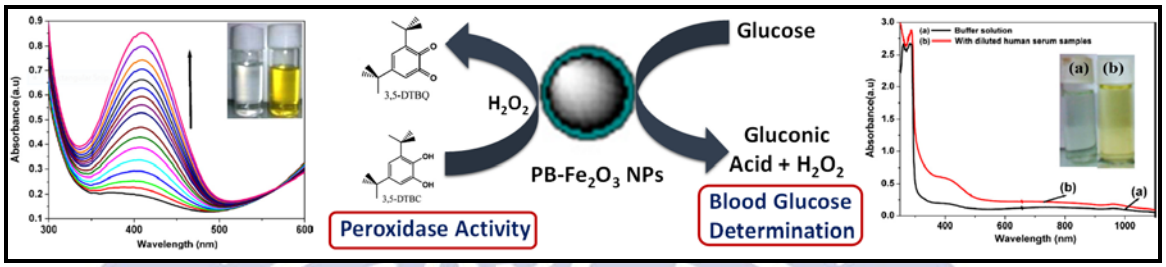
21. γ-Fe_2O_3 nanoparticles: An easily recoverable effective photo-catalyst for the degradation of rose bengal and methylene blue dyes in the waste-water treatment plant. A.K. Dutta, **S.K. Maji**, B. Adhikary. *Mater. Res. Bull., 49 (2014) 28 – 34.* **IF = 2.435**



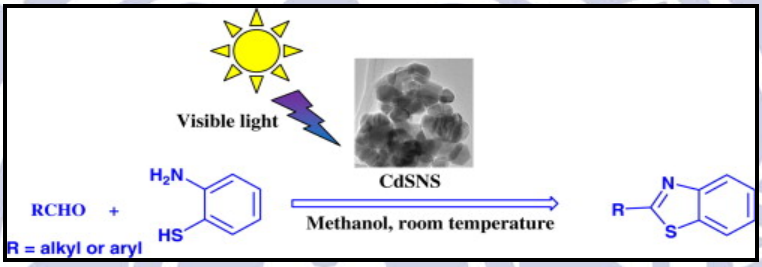
22. Macrocyclic lanthanide(III) complexes of iminophenol Schiff bases and carboxylate anions: Synthesis, structures and luminescence properties. P. Bag, **S.K. Maji**, P. Biswas, U. Flörke, K. Nag. *Polyhedron, 52 (2013) 976 – 985.* **IF = 2.108**



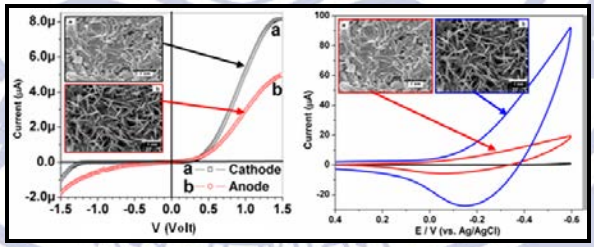
23. New peroxidase–substrate 3,5–di–tert–butylcatechol for colorimetric determination of blood glucose in presence of Prussian Blue-modified iron oxide nanoparticles. A.K. Dutta, **S.K. Maji**, P. Biswas, B. Adhikary. *Sensor. Actuat. B: Chem., 177 (2013) 676 – 683.* **IF = 4.758**



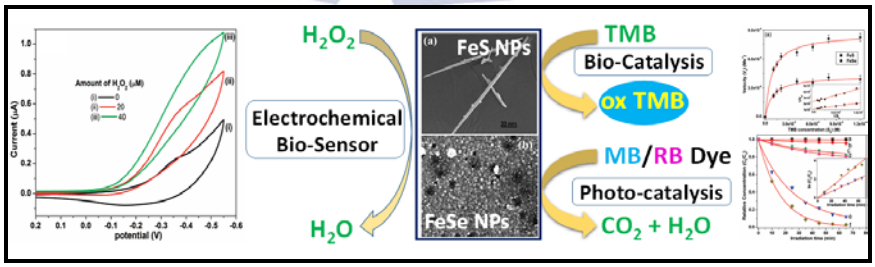
24. Visible-light-driven synthesis of 2-substituted benzothiazoles using CdS nanosphere as heterogenous recyclable catalyst. S. Das, S. Samanta, **S.K. Maji**, A.K. Dutta, P.K. Samanta, D.N. Srivastava, B. Adhikary, P. Biswas. *Tett. Let. 54 (2013) 1090 – 1096.* **IF = 2.347**



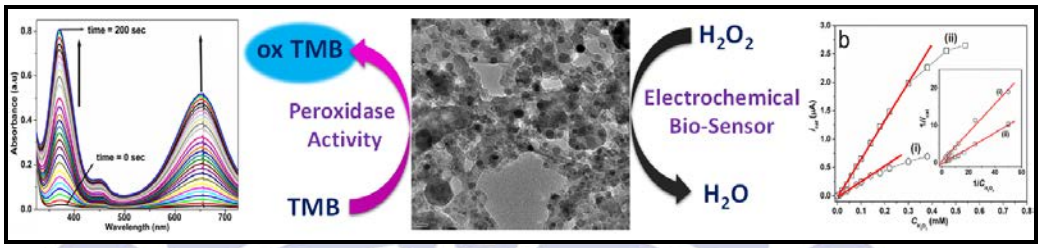
25. Cathodic and anodic deposition of FeS_2 thin films and their application in electrochemical reduction and amperometric sensing of H_2O_2. B. Chakraborty, B. Show, S. Jana, B.C. Mitra, **S.K. Maji**, B. Adhikary, N. Mukherjeec, A. Mondal. *Electrochem. Acta 94 (2013) 7-15.* **IF = 4.803**



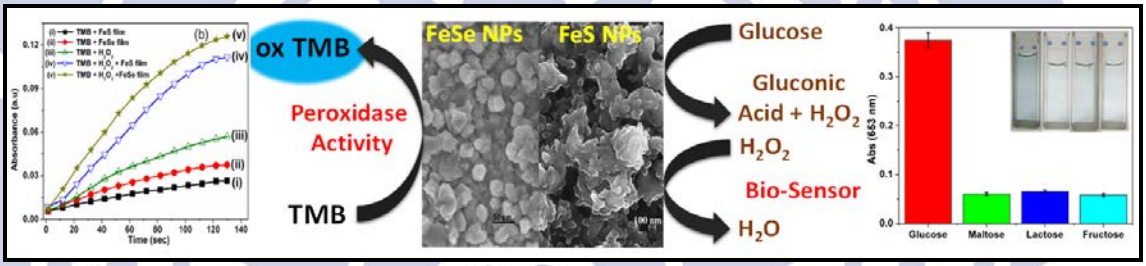
26. Synthesis of FeS and FeSe nanoparticles from a single source precursor: A study of their photocatalytic activity, peroxidase-like behavior and electrochemical sensing of H_2O_2. A.K. Dutta, **S.K. Maji**, D.N. Srivastava, A. Mondal, P. Biswas, P. Paul, B. Adhikary. *ACS Appl. Mate. Interfaces, 4 (2012) 1919 – 1927.* **IF = 7.145**



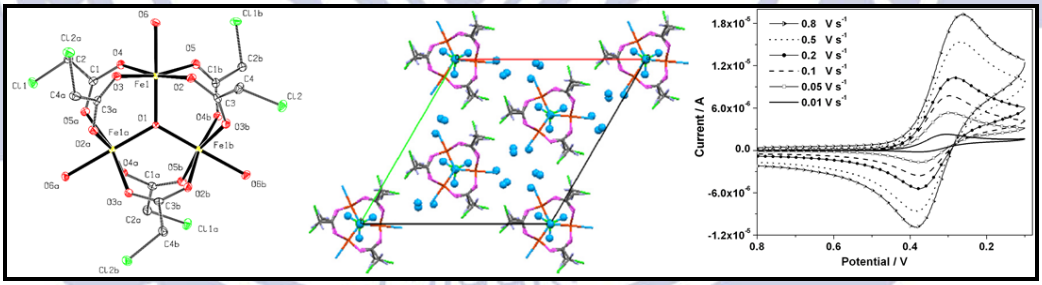
27. Peroxidase-like activity and amperometric sensing of hydrogen peroxide by Fe_2O_3 and Prussian Blue-modified Fe_2O_3 nanoparticles. A.K. Dutta, **S.K. Maji**, D.N. Srivastava, A. Mondal, P. Biswas, P. Paul, B. Adhikary. *J. Mol. Cat. A: Chem., 360 (2012) 71 – 77.* **IF = 3.958**



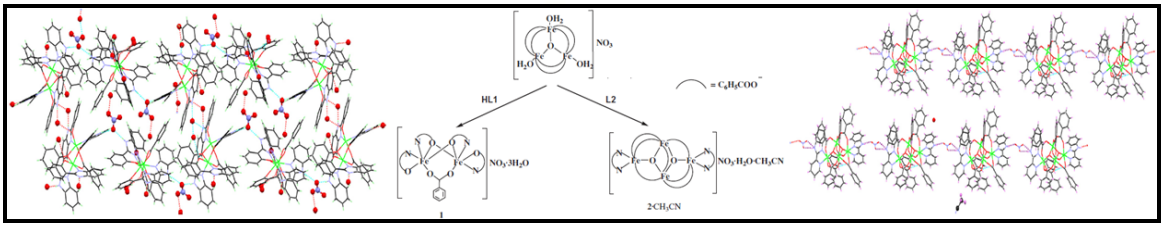
28. Iron selenide thin film: Peroxidase-like behavior, glucose detection and amperometric sensing of hydrogen peroxide. A.K. Dutta, **S.K. Maji**, D.N. Srivastava, A. Mondal, B. Karmakar, P. Biswas, P. Paul, B. Adhikary. *Sensor. Actuat. B: Chem., 173 (2012) 724 – 731.* **IF = 4.758**



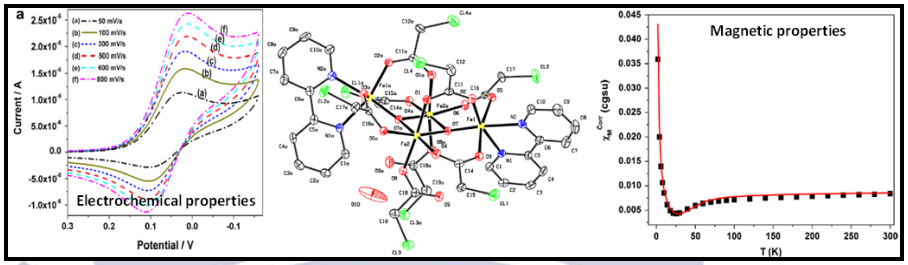
29. A symmetric oxo-centered trinuclear chloroacetato bridged iron(III) complex: Structural, spectroscopic and electrochemical studies. A.K. Dutta, **S.K. Maji,** S. Dutta. *J. Mol. Stru., 1027 (2012) 87 – 91.* **IF = 1.780**



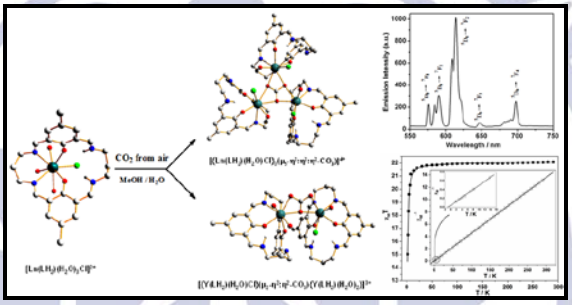
30. Synthesis, crystal structural, spectroscopic, redox and magnetic properties of oxo- and carboxylato-bridged polynuclear iron(III) complexes with phenolate- and pyridine-substituted benzimidazole ligands. A.K. Dutta, **S.K. Maji**, S. Dutta, C.R. Lucas, B. Adhikary. *Polyhedron, 44 (2012) 34 – 43.* **IF = 2.108**



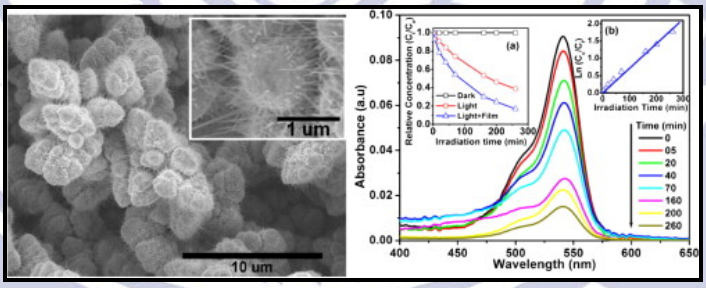
31. Synthesis, structural and magnetic properties of oxo-, chloroacetato-bridged tetra-nuclear iron(III) complex. A.K. Dutta, **S.K. Maji**, S. Dutta, C.R. Lucas, B. Adhikary. *J. Mol. Stru., 1029 (2012) 68 – 74.* **IF = 1.780**



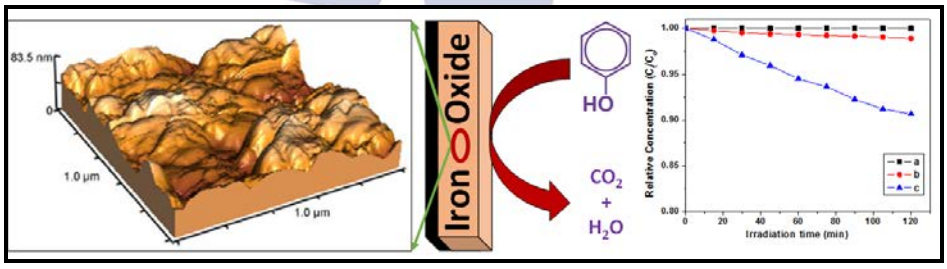
32. Fixation of carbon dioxide by macrocyclic lanthanide(III) complexes under neutral condition producing self-assembled trimeric carbonato-bridged compounds with μ_3-η^2:η^2:η^2 bonding. P. Bag, S. Dutta, P. Biswas, **S.K. Maji**, U. Flörke, K. Nag. *Dalton Trans., 41 (2012) 3414 – 3423.* **IF = 4.177**



33. CuO nano-whiskers: Electrodeposition, Raman analysis, photoluminescence study and photocatalytic activity. N. Mukherjee, B. Show, **S.K. Maji**, U. Madhu, S.K. Bhar, B. C. Mitra, G.G. Khan, A. Mondal. *Matter. Lett., 65 (2011) 3248 – 3250.* **IF = 2.437**



34. Synthesis of nanocrystalline iron oxide ultrathin films by thermal decomposition of iron nitropruside: Structural and optical properties. S.K. Bhar, N. Mukherjee, **S.K. Maji**, B. Adhikary, A. Mondal. *Mater. Res. Bull., 45 (2010) 1948 – 1953.* **IF = 2.435**



POSTER PRESENTATION & SYMPOSIUM

1. UGC sponsored National Seminar on ***Chemistry on Its Way: Impact on the Environment*** held on September 2016, Department of Chemistry, Saldiha College, Bankura, West Bengal, India.
2. Seminar on ***Socio-Environmental Hazards: Threats & Therapy*** held on August, 2016, National Service Scheme, Khatra Adibasi Mahavidyalay, Khatra, West Bengal, India.
3. Upconversion nanoparticles as a contrast agent for photoacoustic imaging in live mice. **S.K. Maji,** S. Sreejith, J. Joseph, M. Lin, T. He, T. Yan, H.D. Sun, S. W. Yu, Y. L. Zhao. ***Poster presentation*** at UGC-SAP Sponsored National Symposium on ***Recent Advances in Chemistry Research (RACR-2016)*** on March, 2016, Department of Chemistry, Visva-Bharati University, Santiniketan, West Bengal, India.
4. State Level Seminar on ***History of Mathematics*** held on October 2015, Department of Mathematics, Khatra Adibasi Mahavidyalay, Khatra, West Bengal, India.
5. National seminar on ***Swadhinata-Uttar Bangla Kabitay Pratibadi Chetana*** held on September 2015, Department of Bengali, Khatra Adibasi Mahavidyalay, Khatra, West Bengal, India.
6. Gold nanoparticles immobilized over mesoporous silica covered graphene oxide: A new generation hybrid material for peroxide biosensing and cancer cell detection. **S.K. Maji**, S. Sreejith, A.K. Mandal, X. Ma, Y. Zhao. ***Poster presentation*** at ***9th International Symposium on Macrocyclic and Supramolecular Chemistry (9-ISMSC)*** on June, 2014, Shanghai Institute of Organic Chemistry (SIOC), Shanghai, China.
7. FeS NPs as photocatalyst, electro-catalyst and mimic peroxidase for biocatalysis. **S.K. Maji**, A.K. Dutta, P, Biswas, N. Srivastava, P. Paul, A. Mondal, B. Adhikary, ***Poster presentation*** at ***Recent Advances in Selected Topics of Chemistry-II*** national seminar held on March, 2011, Department of Chemistry, Indian Institute of Engineering Science and Technology, Shibpur, West Bengal, India.
8. International symposium on ***Facets of Weak Interaction*** in Chemistry held on January 2011, Department of Chemistry, University of Calcutta, Kolkata, West Bengal, India.
9. International symposium on ***Frontiers in Inorganic Chemistry*** held on December 2010, Department of Inorganic Chemistry, Indian Association for the Cultivation of Science, Kolkata, West Bengal, India.
10. 8th Symposium by Chemical Research Society of India on ***Advance in Chemical Research*** held on August 2010, Department of Chemistry, Indian Institute of Engineering Science and Technology, Shibpur, West Bengal, India.
11. 7th Symposium by Chemical Research Society of India on ***Current Trends of Chemical Research*** held on August 2009, Department of Chemistry, Ramakrishna Mission Residential College (Autonomous), Narendrapur, Kolkata, west Bengal, India.
12. International symposium on ***Frontiers of Functional Materials*** held on December 2009, Department of Chemistry, University of Calcutta, Kolkata, West Bengal, India.