



## Dr. Subhash Banerjee

### Assistant Professor

Department of Chemistry  
Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)

Email: [ocsb2006@gmail.com](mailto:ocsb2006@gmail.com)

Phone: 91-7587401979 (Cell)

### Present Employment

- **Assistant Professor** in the Department of Chemistry at Guru Ghasidas University, Bilaspur, C. G., India, **August 11, 2011 – Present (More than 8 years)**

### Post doctoral Experiences

- **Post-Doctoral Research Fellow**, Department of Chemistry, the University of South Dakota, United States of America, **June 01, 2009 – June 30, 2011 (2 years 1 month)**
- **Post-Doctoral Research Associate**, NanoScience Technology Center, the University of Central Florida, United States of America, **July 02, 2007 – May 30, 2009 (1 year 11 months)**

### Education

- **Doctor of Philosophy (Ph. D.)** in Synthetic Organic Chemistry from Jadavpur University. Research work performed under the supervision of **Prof. Brindaban C. Ranu** in the Department of Organic Chemistry, **Indian Association for the Cultivation of Science**, Jadavpur, Kolkata, India, and **Degree Awarded on March, 2008.**
- **M.Sc. (1<sup>st</sup> Class)**, The University of Burdwan, West Bengal, India, **2002.**
- **B.Sc. (1<sup>st</sup> Class)**, Suri Vidyasagar College, The University of Burdwan, WB, India, **2000.**

### Member of Professional Bodies:

- Appointed as **Bentham Brand Ambassador 2018**
- Appointed as **Guest Editor of theme issue of *Current Organic Chemistry***
- Member of Editorial board of “**Modern Research in Catalysts**” (ISSN Online: 2168-4499; ISSN Print: 2168-4480), Scientific Research Publishing Inc. USA.  
Website: <http://www.scirp.org/journal/mrc>
- **Member of American Chemical Society (ACS) 2009-2011**
- **Member of Indian Chemical Society, 2017**

### Awards and Honors

- DST Fast Track Fellowship from DST, Govt. of India, **2012**.
- Post Doctoral Fellowship, Department of Chemistry, The University of South Dakota, USA, June **2009** – June **2011**.
- Post Doctoral Fellowship, NanoScience Technology Center, The University of Central Florida, USA, July **2007** – June **2009**.

### Faculty Recharge Program Completed:

- Completed **Orientation Program** organized by UGC-Academic Staff College, Guru Ghasidas Vishwavidyalaya, During November 26 to December 22, 2012.
- Completed **Refresher Course** in Jointly Organized by Department of Chemistry and HRDC, Guru Ghasidas Vishwavidyalaya, During May 1-21, 2015.
- Completed “**Refresher Course**” *Synthetic and Natural; Products: Chemical and Medicinal Aspects*” in Jointly Organized by Department of Chemistry and UGC-HRDC, Guru Ghasidas Vishwavidyalaya, During June 11, 2018 to June 30, 2018.
- Completed “**Short Term Course**” in *Green Chemistry and Nanotechnology*, Jointly Organized by Department of Chemistry and HRDC, Guru Ghasidas Vishwavidyalaya, During November 23-28, 2015.
- Participated in the “**STEM Teacher Training Workshop on Research Based Pedagogical Tools**” jointly organized by DBT, India, Newton-Bhabha Fund of the British Council, IISER Pune and Pt. RSU, Raipur and conducted by experts from the Centre for Science Education, Sheffield Hallam University, UK held during October 6-9, 2017.


## Research Interests


- **Green Synthesis:** Design and development of green catalysts and reagents for organic transformations.
- **Nano-Catalysis:** Applications of nanoparticles in organic synthesis; Catalysis by unsupported as well as solid supported metal & metal oxide nanoparticles.
- **Heterogeneous Catalysis:** Catalysis by MCM-41/4, SBA-15 and carbon-supported metal nanoparticles (Ru, Pd, Fe, Co, Ni, Cu *etc.*) materials.
- **On-Water Synthesis:** Exploration of organic transformations in water.

## Research Project Received

- *Fast Track Scheme for Young Scientist* from Department of Science & Technology (DST), New Delhi on “*Novel Mesoporous Ru-MCM-48 materials for the Development of Green Synthetic Methodologies*” (SB/FT/CS 023/2012): 23 lacs
- *UGC-BSR Research Start-Up-Grant for Newly Recruited faculty* from UGC, New Delhi on “*Design and Synthesis of Novel Amino Acids Modified Imidazolium Based Chiral Ionic Liquids for Asymmetric Synthesis*”, F. No. 20-1/2012(BSR)/20-8(3)/2012(BSR): 6 lacs
- CCOST Mini Research Project on “*Development of Rice-husk Feedstock Supported Nanomaterials for the Synthesis of Privileged Medicinal Scaffolds*” (ENDT No 2096/CCOST/MRP/2017) dated 19.09.2017 Grant Amount 4,85,000/-

## Details of Ph.D. Thesis Guidance

Sl. No.	Name of Student	Research Topic/Thesis Title	Status
1.	 <b>Mr. Arijit Saha</b>	<b>Development of Synthetic Protocol for MCRs leading to Bio-active Molecules</b>	<b>Degree Awarded on April, 04, 2018</b>  <b>Currently doing Post-Doc under DS-Kothari Fellow at HCU</b>

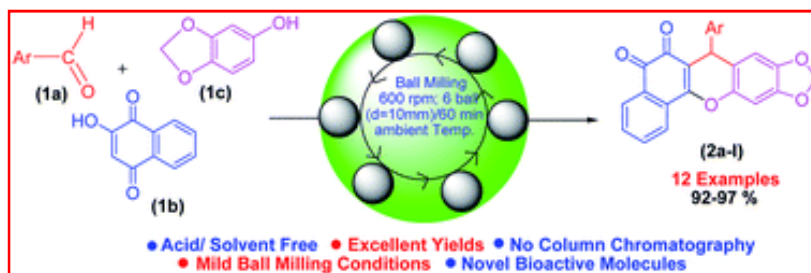
2.	 <b>Mr. Soumen Payra</b>	Heterogeneous nano-Catalysts in Organic Synthesis	Degree Awarded on June 14, 2018  Currently doing Post-Doc with Prof. J. N. Moorthy at IIT, Kanpur
3.	<b>Mr. Ashok Raj Patel</b>	Development of Novel Support for Nano-Catalysts and their Applications in Organic Transformation	PhD (Ongoing)
4	<b>Ms. Geetika Patel</b>	Development of Green Synthetic Methodologies Using Heterogeneous Nano-Catalysts	PhD (Ongoing)
<b>Sl. No.</b>	<b>M. Sc./B. Sc. Research Based Project</b>		<b>Total</b>
1.	<b>M.Sc. Project Guided</b>		<b>25</b>
2.	<b>B. Sc. Project Guided</b>		<b>26</b>

## Research Publications From Present Institute (2011 – 2019)

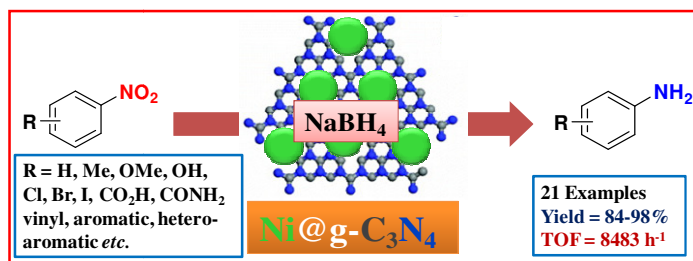
(Note: \* Means paper published as corresponding author)

<b>Total Paper in journals</b>	<b>65</b>	<b>International = 61; national = 01</b>
<b>Paper presented in Conferences</b>	<b>30</b>	<b>International = 15; national = 15</b>
<b>Total Citation (as on 30-08-2019)</b>	<b>2533</b>	<b>h-Index = 25; i10-index = 40</b>

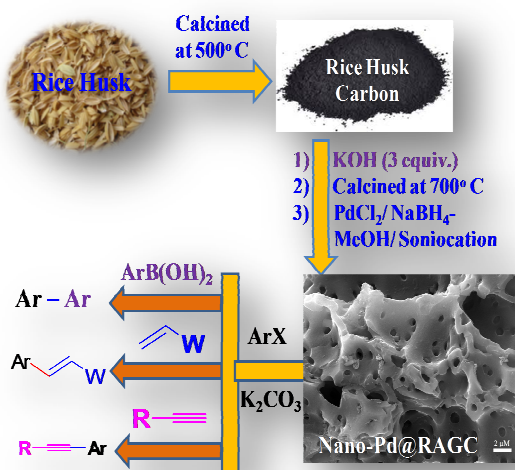
- Mesoporous PbO Nanoparticles-catalyzed Arylbenzodioxo Xanthenedione Scaffolds under Solvent-less Conditions in a Ball Mill – T. L. Lambat, R. G. Chaudhary, A. A. Abdala, R. K. Mishra, S. M. and **S. Banerjee\***– *RSC Advances*, 2019, 9, 31683-31690.



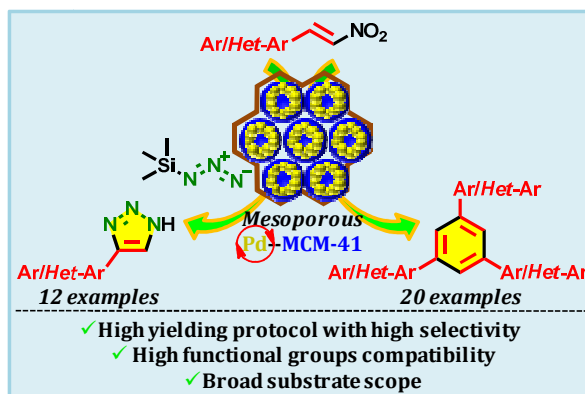
2. Highly Efficient and Chemoselective Reduction of Nitroarenes Using Hybrid Ni@g-C<sub>3</sub>N<sub>4</sub> as Reusable Catalyst. S Payra, A Saha, **S Banerjee\*** - *ChemistrySelect* 2019, 4, 9556-9561.



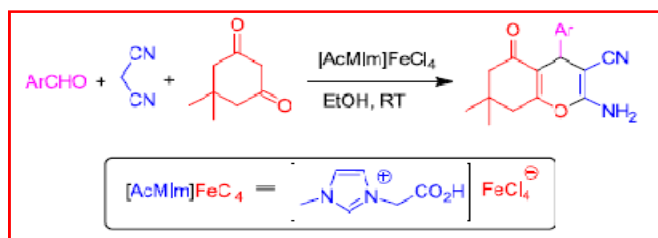
3. Synthesis of Rice Husk Derived Activated Mesoporous Carbon Immobilized Palladium Hybrid Nano-Catalyst for Ligand-Free Mizoroki-Heck/Suzuki/Sonogashira Cross-Coupling Reactions - A. R. Patel, A. Asatkar, G. Patel, **S. Banerjee\*** - *ChemistrySelect* 2019, 4, 5577-5584.



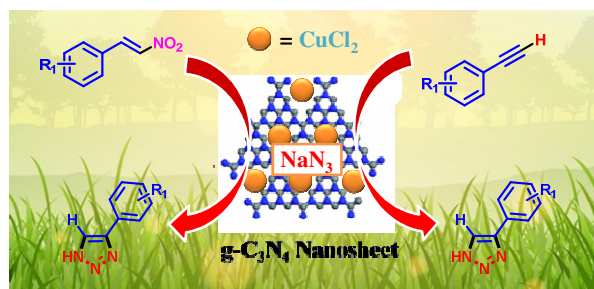
4. Facile Synthesis of 1,3,5-Triarylbenzenes and 4-Aryl-NH-1,2,3-Triazoles Using Mesoporous Pd-MCM-41 as Reusable Catalyst - A. Saha, C. M. Wu, R. Peng, R. Koodali, **S Banerjee\*** - *European Journal of Organic Chemistry*, 2019, 104-111.



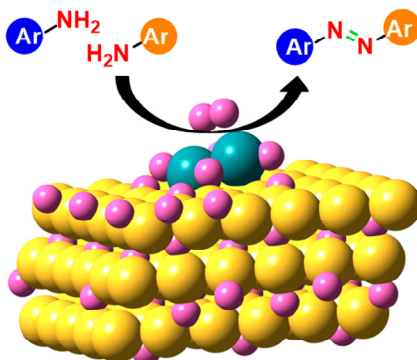
5. AcMIM]FeCl<sub>4</sub>: A Magnetically Separable Organocatalyst for the Clean Synthesis of Tetrahydrobenzo[*b*]pyran Derivatives – A. Saha, S. Payra, A. Asatkar, A. R. Patel, **S. Banerjee\*** - *Current Organocatalysis* – 2019, 6, 1-6,



6. On Water Cu@g-C<sub>3</sub>N<sub>4</sub> Catalyzed Synthesis of NH-1,2,3-Triazoles Via [2+3] Cycloadditions of Nitroolefins/Alkynes and Sodium Azide - S. Payra, A. Saha, and **S. Banerjee\*** *ChemCatChem.*, 2018, 10, 5468–5474.

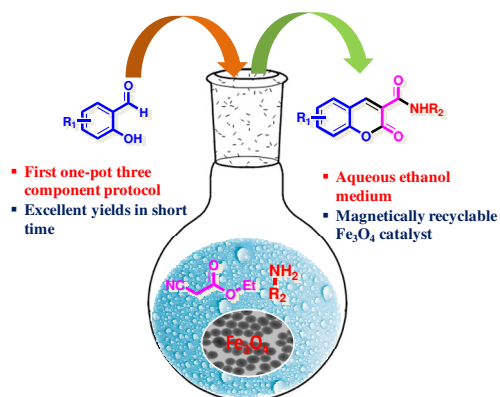


7. On-Water NiFe<sub>2</sub>O<sub>4</sub> Nanoparticle-Catalyzed One-Pot Synthesis of Biofunctionalized Pyrimidine-Thiazole Derivatives: In Silico Binding Affinity and In Vitro Anticancer Activity Studies – A. Sharma, S. Gudala, S. R. Ambati, S. P. Mahapatra, A. Raza, S. Payra, A. Jha, A. Kumar, S. Penta, **S. Banerjee\*** *ChemistrySelect*, 2018, 3, 11012-11019.
8. Hierarchical Mesoporous RuO<sub>2</sub>/Cu<sub>2</sub>O Nanoparticle-Catalyzed Oxidative Homo/Hetero Azo-Coupling of Anilines- A. Saha, S. Payra, B. Selvaratnam, S. Bhattacharya, S. Pal, R.T. Koodali, and **S. Banerjee\*** – *ASC Sustainable Chemistry & Engineering*, 2018, 6, 11345.

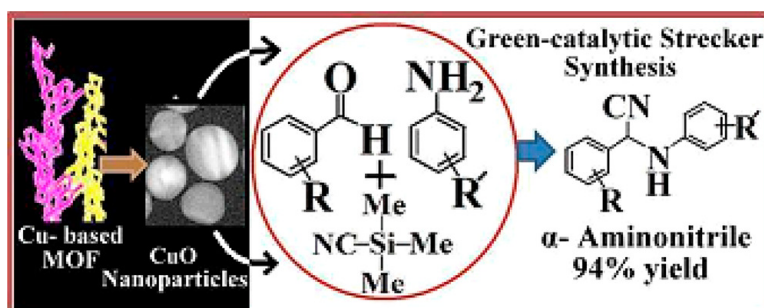




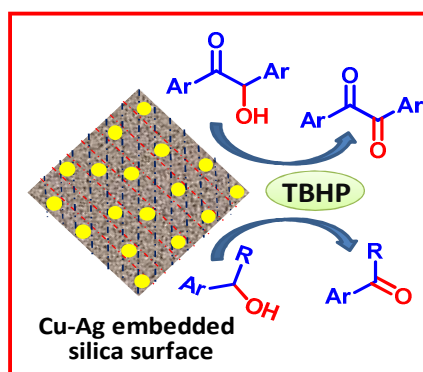
9. Magnetically Recoverable Fe<sub>3</sub>O<sub>4</sub> Nanoparticle-Catalyzed One-Pot Synthesis Of Coumarin-3-Carboxamide Derivatives in Aqueous Ethanol - S Payra, A Saha, and [S Banerjee\\*](#) *ChemistrySelect*, 2018, 3, 7535– 7540.



10. A MOF to CuO Nanospheres of Uniform Morphology for Synthesis of  $\alpha$ -Aminonitriles under Solvent-Free Conditions along with Crystal Structure of the MOF – S. Singha, A. Saha, S. Goswami, S. K. Dey, S. Payra, [S. Banerjee\\*](#), S. Kumar, R. Saha – *Crystal Growth & Design* 2018, 18, 189–199.



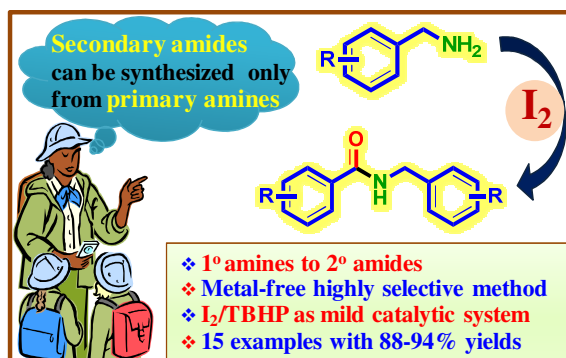
11. A Review on Synthesis of Benzothiazole Derivatives - [S Banerjee\\*](#), A Saha and S Payra – *Current Organocatalysis*, 2017, 4, 164-181.
12. Synthesis of Smart Bimetallic Nano-Cu/Ag@SiO<sub>2</sub> for Clean Oxidation of Alcohols – A Saha, S Payra, [S Banerjee\\*](#) *New Journal of Chemistry*, 2017, 41, 13377.



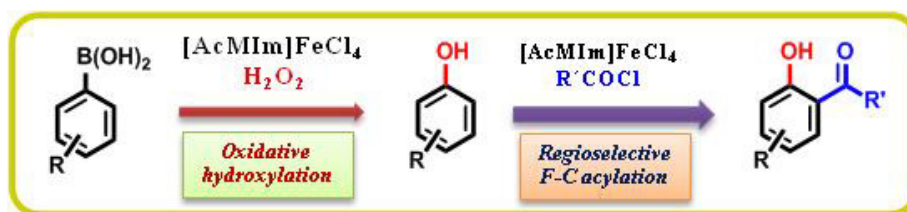
13. Fabrication of Nano-CuO@ZnO for the Synthesis of Functionalized  $\beta$ -Enaminone Derivatives from  $\beta$ -Nitrostyrenes, Aliphatic/Aromatic Amines and 1,3-Dicarbonyl/4-Hydroxy Coumarin - A. Saha, S. Payra, S. Akhtar and [S. Banerjee\\*](#) - *ChemistrySelect*, 2017, 2, 7319 – 7324.



14. Molecular-Iodine-Catalyzed Transformation of Benzyl Amines to *N*-Benzyl Benzamides via Oxidative Dehydrogenation/A<sub>2</sub> like Self-Coupling and Hydration under Metal-Free Mild Conditions- A. Saha, S. Payra and [S. Banerjee\\*](#) - *ChemistrySelect*, 2017, 2, 3500 – 3503.



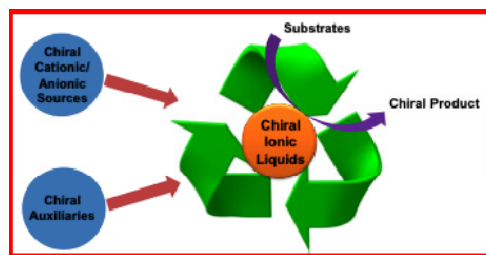
15. Novel Acid-functionalized Magnetic Ionic Liquid, [AcMIm]FeCl<sub>4</sub> as Catalyst for Oxidative Hydroxylation of Arylboronic Acids and Regioselective Friedel-Craft Acylation- A. Saha, S. Payra, D. Dutta and [S. Banerjee\\*](#) *ChemPlusChem*, 2017, 82, 1129 – 1134



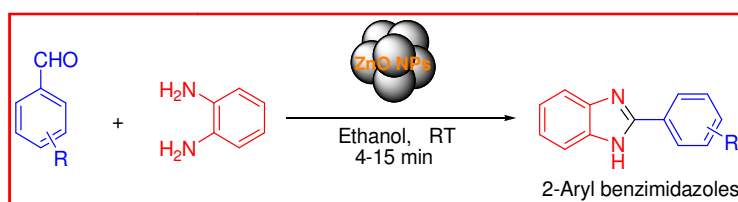
16. Invited Review Article: Recent Advances on Fe-Based Magnetic Nanoparticles in Organic Transformations - S. Payra, A. Saha, and [S. Banerjee\\*](#) - *Journal of Nanoscience and Nanotechnology*, 2017, 17, 4432-4448.



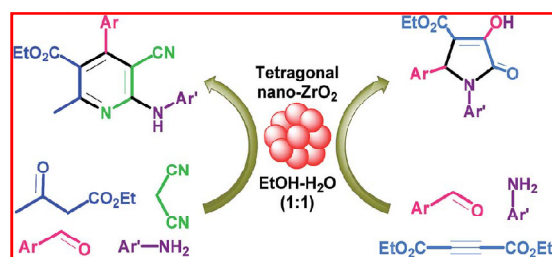
- 17. Invited Review Article: Chiral Ionic Liquids: Synthesis and Role as Efficient Green Catalyst in Asymmetric Synthesis** - S. Payra, A. Saha, and [S. Banerjee\\*](#) - *Current Organocatalysis*, **2017**, 4 (1), 4-32.



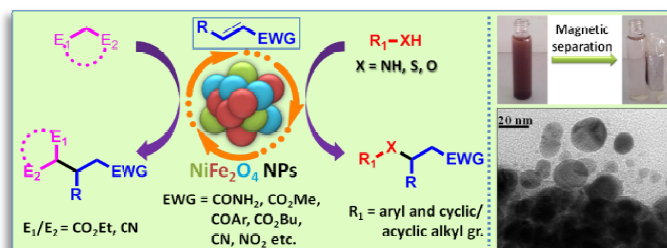
- 18. Efficient Room Temperature Synthesis of 2-Aryl benzimidazoles Using ZnO Nanoparticles as Reusable Catalyst** – S. K. Banjare, S. Payra, A. Saha, and [S. Banerjee\\*](#) - *Organic & Medicinal Chem IJ*. **2017**; 1(4): 555568.



- 19. In-Water Facile Synthesis of Poly-Substituted 6-Arylamino Pyridines and 2-Pyrrolidone Derivatives Using Tetragonal Nano-ZrO<sub>2</sub> as Reusable Catalyst** - A Saha, S Payra, [S Banerjee\\*](#), *RSC Advances* **2016**, 6 (104), 101953-101959.



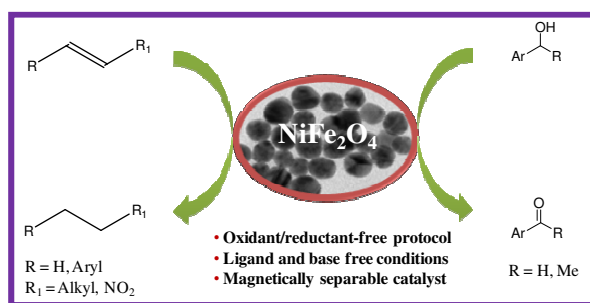
- 20. On-water Magnetic NiFe<sub>2</sub>O<sub>4</sub> nanoparticle-catalyzed Michael Additions of Active methylene compounds, Aromatic/Aliphatic Amines, Alcohols and Thiols to Conjugated Alkenes**- S. Payra, A. Saha and [S. Banerjee\\*](#) *RSC Advances*, **2016** 6 (98), 95951-95956.



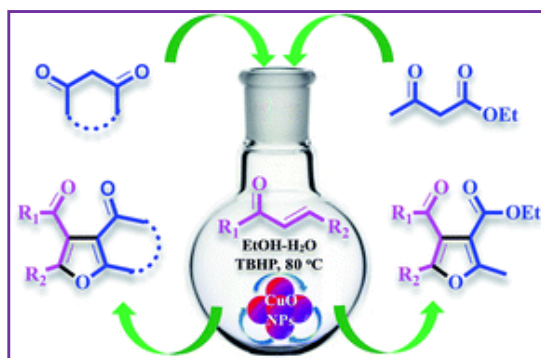
- 21. Mesoporous Fe-SBA-15 Catalyzed Synthesis of 2-Alkoxyimidazo[1,2-*a*] Pyridines and Evaluation of in-Silico Selectivity and Binding Affinity to Biological Targets-** S. Payra, A. Saha, C-M. Wu, B. Selvaratnam, T. Dramstad, L. Mahoney, S. K. Verma, S. Thareja, R. Koodali, **S. Banerjee\*** - *New Journal of Chemistry*, 2016 (Accepted Article)



- 22. Nano-NiFe<sub>2</sub>O<sub>4</sub> as Efficient Catalyst for Regio- and Chemoselective Transfer Hydrogenation of Olefins/alkynes and Dehydrogenation of Alcohols Under Pd-/Ru-Free Conditions –** S. Payra, A. Saha and **S. Banerjee\*** *RSC Advances*, 2016, 6, 52495.

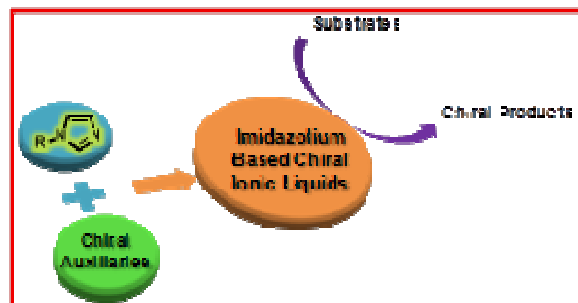


- 23. Direct CuO Nanoparticle-Catalyzed Synthesis of Poly-substituted Furans via Oxidative C–H/C–H Functionalization in Aqueous Medium –** S. Payra, A. Saha, S. Guchhait and **S. Banerjee\*** *RSC Advances*, 2016, 6(40), 33462-33467.

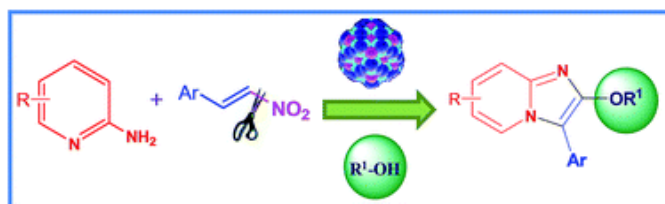


- 24. Invited Review Article:** Recent Advances on Design and Synthesis of Chiral Imidazolium Ionic Liquids and their Applications in Green Asymmetric Synthesis – A.

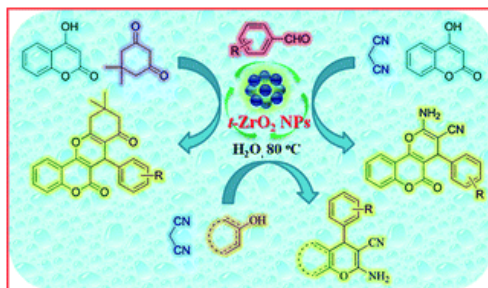
Saha, S. Payra and [S. Banerjee\\*](#) - *Journal of Applied Solution Chemistry and Modeling*, **2016**, *5*, 3-20.



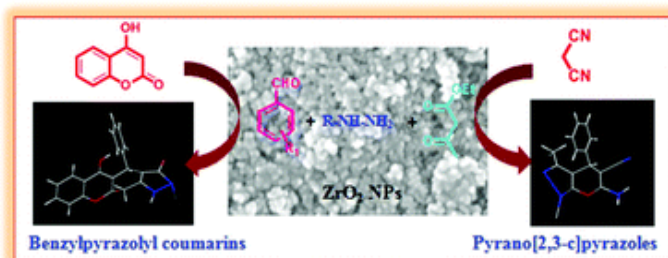
**25.** Nano-NiFe<sub>2</sub>O<sub>4</sub> Catalyzed Microwave Assisted One-Pot Regioselective Synthesis of Novel 2-Alkoxyimidazo[1,2-*a*]pyridines Under Aerobic Conditions – S. Payra, A. Saha, and [S. Banerjee\\*](#) *RSC Advances*, **2016**, *6*(15), 12402-12407.



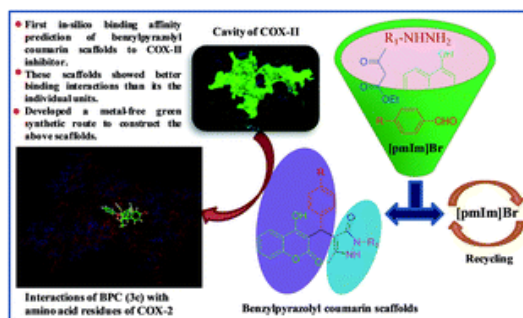
**26.** On Water Synthesis of Pyran–Chromenes via a Multicomponent Reactions Catalyzed by Fluorescent *t*-ZrO<sub>2</sub> Nanoparticles – A. Saha, S. Payra and [S. Banerjee\\*](#) *RSC Advances*, **2015**, *5*, 101664-101671.



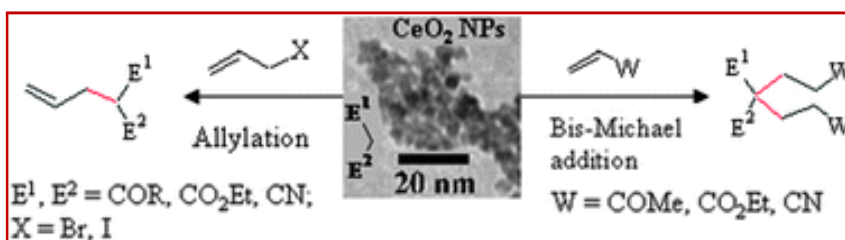
**27.** One-Pot Multicomponent Synthesis of Highly Functionalized Bio-Active Pyrano[2,3-*c*]pyrazole and Benzylpyrazolyl Coumarin Derivatives Using ZrO<sub>2</sub> Nanoparticles as Reusable Catalyst – A. Saha, S. Payra and [S. Banerjee\\*](#) - *Green Chemistry*, **2015**, *17*, 2859.



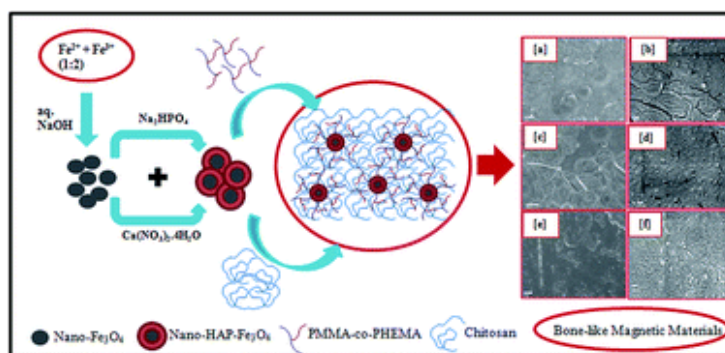
28. In-Silico Binding Affinity to Cyclooxygenase-II and Green Synthesis Of Benzylpyrazolyl Coumarin Derivatives - A. Saha, S. Payra, S. K. Verma, S. Thareja, and [S. Banerjee\\*](#) *RSC Advances*, 2015, 5, 100978-100983.



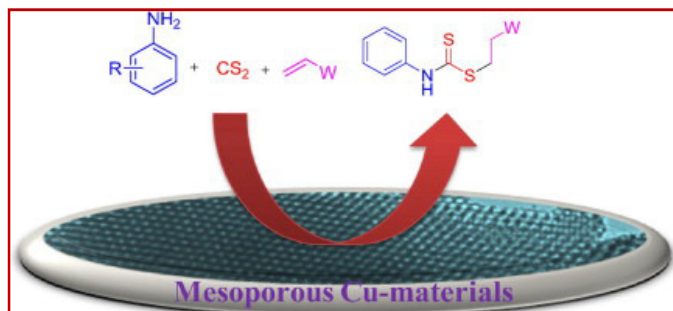
29. Remarkable Catalytic Activity of Ultra Small Free-CeO<sub>2</sub> nanoparticles in Selective Carbon-Carbon Bond Formation Reactions in Water at Room Temperature – [S. Banerjee\\*](#) - *New Journal of Chemistry*, 2015, 39, 5350 – 5353.



30. Novel Magnetic Antimicrobial Nanocomposites for Bone Tissue Engineering Applications – A. Bhowmick, A. Saha, N. Pramanik, [S. Banerjee](#), M. Das and P. P. Kundu – *RSC Advances*, 2015, 5, 25437-25445.

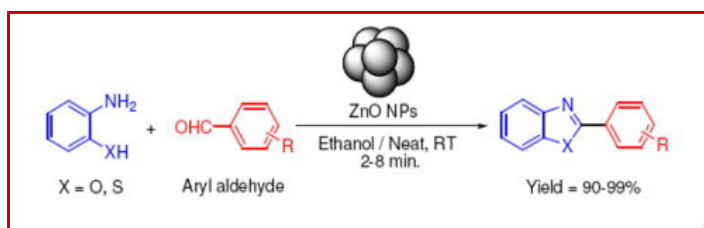


31. Expedient One-Pot Three Component Synthesis of N-aryl Dithiocarbamate Derivatives Using Mesoporous Cu-Materials – S. Payra, A. Saha, R. Peng, C.-M. Wu, R. T. Koodali, and [S. Banerjee\\*](#) – *Tetrahedron Letters*, 2015 56, 160-1613.

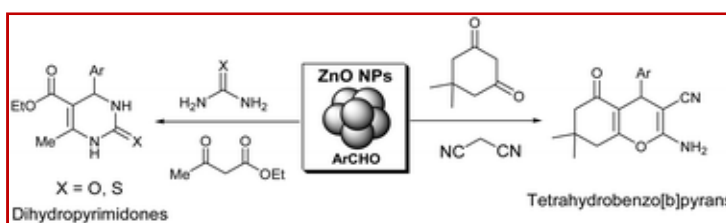


This paper has been selected by the Editorial Board of SYNFACTS for its important insights: *One-Pot Synthesis of N-Aryl Dithiocarbamates*, *Synfacts* **2015**, *11*, 0671-0672.

- 32.** ZnO nanoparticles: A green efficient catalyst for the room temperature synthesis of biologically active 2-aryl-1,3-benzothiazole and 1,3-benzoxazole derivatives – [S. Banerjee\\*](#), S. Payra, A. Saha and G. Sereda – *Tetrahedron Letters*, **2014** *55*(40), 5515-5520.



- 33.** Free-ZnO Nanoparticles: A Mild, Efficient and Reusable Catalyst for The One-Pot Multicomponent Synthesis of Tetrahydrobenzo[*b*] Pyran and Dihydropyrimidone Derivatives – [S. Banerjee\\*](#) and A. Saha- *New Journal of Chemistry* **2013**, *37* (12), 4170-4175.



- 34.** Hydroxyapatite Packed Chitosan-PMMA Nano-composite: A Promising Material for Construction of Synthetic Bone - A. Bhowmick, [S. Banerjee](#), R. Kumar, P. P. Kundu – *Multifaceted Development and Application of Biopolymers for Biology, Biomedicine and Nanotechnology* Volume 254 of the Series *Advances in Polymer Science*, Publisher: Springer-Verlag Berlin Heidelberg, **2013**/1/1; Page 135-167 (Impact Factor: 3.890).
- 35.** Morphology-Controlled Synthesis and Characterization of Magnetic Iron Oxide Nanocrystals and Their Potential Applications in Selective Oxidation of Alcohols and

Olefins – [S. Banerjee\\*](#) and S. Santra - *Journal of Catalysts*, **2013**, Article ID 910489, 5 pages DOI: <http://dx.doi.org/10.1155/2013/910489>

- 36.** TiO<sub>2</sub>-SiO<sub>2</sub> Mixed Oxides: Organic Ligand Templated Controlled Deposition of Titania and Their Photocatalytic Activities for Hydrogen Production – R. Peng, [S. Banerjee\\*](#), G. Sereda, R. Koodali – *International Journal of Hydrogen Energy*, **2012**, *37*, 17009-17018.
- 37.** Ionic Liquid/PPh<sub>3</sub> Promoted Cleavage of Diphenyl Disulfide and Diselenide: A Straight-Forward Metal-Free One-Pot Route to the Synthesis of Unsymmetrical Sulfides and Selenides – [S. Banerjee](#), L.K. Adak, B. C. Ranu\* – *Tetrahedron Letters*, **2012**, *53*, 2149-2152.

### Research Publications From Post Doctoral and Doctoral Research (2004-2011)

- 38.** Design and Study of Activatable ("OFF/ON") Quantum Dots (Qdots) for Potential Biomedical Applications: Ligand Selection for Qdot Surface Modification for Controlling Qdot Fluorescence Quenching and Restoration – S. Santra, S. Basumallick, R. N. Mitra, [S. Banerjee](#), R. Shah – *Proc. SPIE*. **2012**, *8232* (DOI: 10.1117/12.912799).
- 39.** Synthesis of Substituted Acetylenes, Aryl Alkyl Ethers, 2-Alkene-4-Ynoates, and Nitriles Using Heterogeneous Mesoporous Pd-MCM-48 as Reusable Catalyst – [S. Banerjee,\\*](#) V. Balasanthiran, H. Khatri, R. Koodali and G. Sereda – *Tetrahedron* **2011**, *67*, 5717-5724.
- 40.** A Green One-Pot Multicomponent Synthesis of 4*H*-Pyrans and Polysubstituted Aniline Derivatives of Biological, Pharmacological, and Optical Applications Using Silica Nanoparticles as Reusable Catalyst – [S. Banerjee,\\*](#) A. Horn, H. Khatri and G. Sereda – *Tetrahedron Lett.* **2011**, *52*, 1878-1881.
- 41.** Semiconductor CdS:Mn/ZnS Quantum Dots for Sensing Applications – [S. Banerjee](#) and S. Santra – *Proc. SPIE*. **2010**, 7674,767403.
- 42.** Pd-MCM-48: A Novel and Recyclable Heterogeneous Catalyst for Selective Hydrogenations and Coupling Reactions – [S. Banerjee,\\*](#) V. Balasanthiran, R. Koodali and G. Sereda – *Org. Biomol. Chem.* **2010**, *8*, 4316-4321.
- 43.** Iron Oxide Nanoparticles Grown on Carboxy-Functionalized Graphite: An Efficient Reusable Catalyst for Alkylation of Arenes – V. Rajpara, [S. Banerjee\\*](#) and G. Sereda – *Synthesis* **2010**, 2835-2840.



(This paper has been selected by the Editorial Board of *SYNFACTS* for its important insights: Alkylation of Arenes with Fe<sub>3</sub>O<sub>4</sub> Nanoparticles on Oxidized Graphite, **2010**, *11*, 1320).

**44.** Silica Nanoparticles as Reusable Catalyst: A Straight-Forward Route For The Synthesis of Thioethers, Thioesters, Vinyl Thioethers and Thio-Michael Adducts Under Neutral Reaction Conditions – [S. Banerjee](#),\* J. Das, R. Alvarez and S. Santra – *New. J. Chem.* **2010**, *34*,302-306.

**45.** One-Step, Three-Component Synthesis of Highly Substituted Pyridines Using Silica Nanoparticle as Reusable Catalyst – [S. Banerjee](#),\* and G. Sereda – *Tetrahedron Lett.* **2009**, *50*, 6959-6962.

(This paper has been selected by the Editorial Board of *SYNFACTS* for its important insights: Three Component Synthesis of Substituted Pyridines with Silica Nanoparticles, **2010**, *1*, 0119).

**46.** Remarkable Catalytic Activity of Silica Nanoparticle in the Michael Addition of Active Methylene Compounds to Conjugated Alkenes – [S. Banerjee](#),\* and S. Santra – *Tetrahedron Lett.* **2009**, *50*, 2037-2040.

(This paper has been selected by the Editorial Board of *SYNFACTS* for its important insights: Novel Catalytic Activity of Silica Nanoparticles in a One Step Bis-Michael Addition – *SYNFACTS* **2009**, *7*, 814.)

**47.** Native Silica Nanoparticle Catalyzed Anti-Markovnikov Addition of Thiols to Unactivated Alkenes and Alkynes: A New Route to Linear and Vinyl Thioethers – [S. Banerjee](#), J. Das and S. Santra – *Tetrahedron Lett.* **2009**, *50*, 124-127.

**48.** Quantum Dots Based ON/OFF Probe for Detection of Glutathione – [S. Banerjee](#), S. Kar, M. J. Perez and S. Santra – *J. Phys. Chem. C.* **2009**, *113*, 9659–9663.

**49.** A Simple Strategy for Qdot Assisted Selective Detection of Cd<sup>2+</sup> – [S. Banerjee](#), S. Kar and S. Santra – *Chem. Commun.* **2008**, 3037-3039.

**50.** A Simple, Efficient and Green Protocol for the One-Pot Synthesis of Tetrahydrobenzo[b] Pyran Derivatives using a Task-Specific Ionic liquid, [bmIm]OH – B. C. Ranu and [S. Banerjee](#) – *Indian J. Chem. Soc.* **2008**, *47*, 1108-1112.

**51.** Ionic liquid Promoted Interrupted Feist-Benary Reaction with High Diastereoselectivity – B. C. Ranu, L. K. Adak and [S. Banerjee](#), *Tetrahedron Lett.* **2008**, *49*, 4613-4617.

**52.** Catalysis by Ionic Liquids: Significant Rate Acceleration with the Use of [pmIm]Br in the Three-Component Synthesis of Dithiocarbamates – B. C. Ranu, A. Saha and [S. Banerjee](#), *Eur. J. Org. Chem.* **2008**, 519-523.

- 53.** Regioselective Cross-Coupling of Allylindium Reagents with Activated Benzyl bromides – A Simple and Efficient Procedure for the Synthesis of Terminal Alkenes – B. C. Ranu, **S. Banerjee** and L. K. Adak, *Tetrahedron Lett.* **2007**, *48*, 7374-7379.
- 54.** Ionic Liquid Promoted Regio- and Stereo-selective Thiolysis of Epoxides - A Simple and Green Approach to  $\beta$ -Hydroxy- and  $\beta$ -Keto-Sulfides – B. C. Ranu, T. Mandal, **S. Banerjee**, and S. S. Dey, *Aust. J. Chem.* **2007**, *60*, 278-283.
- 55.** Efficient Stereo and Regioselective Cleavage of Epoxides and Aziridines Using an Ionic Liquid as Reagent and Reaction Medium – B. C. Ranu, L. K. Adak and **S. Banerjee**, *Can. J. Chem.* **2007**, *85*, 366-371.
- 56.** Halogenation of Carbonyl Compounds by an Ionic Liquid, [AcMIm]X, and Ceric Ammonium Nitrate (CAN) – B. C. Ranu, L. K. Adak and **S. Banerjee**, *Aust. J. Chem.* **2007**, *60*, 358-362.
- 57.** Ionic Liquid - Promoted Stereoselective Synthesis of (*Z*)-Vinyl Bromides by [bmIm]OH under Organic Solvent - Free Conditions – B. C. Ranu, **S. Banerjee** and J. Gupta, *Synth. Commun.* **2007**, *37*, 2869-2976.
- 58.** Significant rate Acceleration of the Aza-Michael Reaction in Water – B. C. Ranu and **S. Banerjee**, *Tetrahedron Lett.* **2007**, *48*, 141-143.
- 59.** Ionic Liquid as Catalyst and Solvent. The Remarkable Effect of a Basic Ionic Liquid, [bmIm]OH on Michael Addition and Alkylation of Active Methylene compounds – B. C. Ranu, **S. Banerjee** and R. Jana, *Tetrahedron* **2006**, *63*, 776-782.
- 60.** Homocoupling of Terminal Alkynes to 1,4-Disubstituted 1,3-Diynes Promoted by Copper(I) Iodide and a Task Specific Ionic Liquid, [bmIm]OH – A Green Approach – B. C. Ranu and **S. Banerjee**, *Lett. Org. Chem.* **2006**, *3*, 607-609.
- 61.** Indium Triflate Catalyzed Rearrangement of Aryl-substituted Cyclopropyl Carbinols to 1, 4-Disubstituted 1, 3-Butadienes – B. C. Ranu and **S. Banerjee**, *Eur. J. Org. Chem.* **2006**, 3012-3015.
- 62.** Catalysis by Ionic Liquid. A Novel, Simple and Green Protocol for the Synthesis of Substituted Conjugated Butadienes by Cyclopropyl Carbinyl Rearrangement by [pmIm]Br under Organic Solvent Free Condition – B. C. Ranu, **S. Banerjee** and A. Das, *Tetrahedron Lett.* **2006**, *47*, 881-884.
- 63.** Indium (I) Iodide-Promoted Cleavage of Diphenyl Diselenide and Disulfide and Subsequent Palladium (0)-Catalyzed Condensation with Vinylic Bromides. A Simple One-Pot Synthesis of Vinylic Selenides and Sulfides – B. C. Ranu, K. C. Chattopadhyaya and **S. Banerjee**, *J. Org. Chem.* **2006**, *71*, 423-425.
- 64.** Ionic Liquid as Catalyst and Reaction Medium. The Dramatic Influence of a Task Specific Ionic Liquid [bmIm]OH in Michael Addition of Active Methylene Compounds

to Conjugated Ketones, Carboxylic Esters and Nitriles – B. C. Ranu, and [S. Banerjee](#), *Org. Lett.* **2005**, 7, 3049-3052.

- 65.** Ionic Liquid as Reagent. A Green Procedure for the Regioselective Conversion of Epoxides to *vicinal*-Halohydrins using [AcMIm]X under Catalyst- and Solvent-Free Conditions – B. C. Ranu and [S. Banerjee](#), *J. Org. Chem.* **2005**, 70, 4517- 4520.
- 66.** Selective Reductive Cleavage of 2,3-Epoxybromides by the InCl<sub>3</sub>-NaBH<sub>4</sub> Reagent System – B. C. Ranu, [S. Banerjee](#) and A. Das, *Tetrahedron Lett.* **2004**, 45, 8579-8581.

### **Presentation in Conferences/Seminars/Symposium:**

- 1.** Development of Robust Hybrid Nanomaterials for Green Organic Synthesis - [Dr. S. Banerjee](#) oral Presentation (**Invited Talk**) in One Day National Conference on “Innovations in Chemistry and Environmental Engineering” (ICEE-2019 on April 29, 2019 at National Institute of Technology, Raipur, C.G.
- 2.** Design and Development of Hybrid Functional Nanomaterials for Clean Organic Synthesis - [Dr. S. Banerjee](#) oral Presentation (**Invited Talk**) One-day conference on “Recent advances in functional nanomaterials, September 28, 2018 Celebration of 125th Birth Anniversary of Prof. S. N. Bose February September, 2018 in the Pt Ravishankar Shukla University, Raipur, C.G.
- 3.** Nanoparticles-Catalyzed Synthesis of Functional BioMolecules - [Dr. S. Banerjee](#) - oral Presentation (**Invited Talk**) National Seminar on Application of Cellular Biology & Molecular Biology in Human Health & Diseases held on April 27, 2018 in the department of Biotechnology, JIS University, Agarpara, Kolkata, WB
- 4.** Magnetic NiFe<sub>2</sub>O<sub>4</sub> Nanoparticles in Organic Synthesis – [Dr. S. Banerjee](#) Poster Presentation at 22<sup>nd</sup> CRSI National Symposium in Chemistry, February 02-04, 2018 in the Pt Ravishankar Shukla University, Raipur, C.G.
- 5.** Journey of “Nano”: A Glorious Past to Brighter Future- [Dr. S. Banerjee](#) Oral Presentation at International Conference on “Bharat Rejuvenation: From Glorious Past to Modern Era (ICBR 2017)” held during October 15-17, 2017 in Guru Ghasidas Vishwavidyalaya, Bilaspur.
- 6.** Nano-Catalysis – A Sustainable Green Tool - [Dr. S. Banerjee](#) Oral Presentation (**Invited Talk**) in the National Level Self-Sponsored Short Term Training Programme on “Recent Trends in Material Science and Nano-Technology (MSNT-2017) during October 03-07, 2017, National Institute of technology, Raipur, C.G. India.

7. A Green Synthesis of Functionalized Bio-Molecules Using Nanoparticles as Reusable Catalyst, **Dr. S. Banerjee** Oral Presentation at the 104<sup>th</sup> Indian Science Congress held during January 3-7, 2017 at the S. V. University, Tirupati, AP
8. Green Synthesis of Functional (Drugs) Bio-molecules Using Nano-Catalyst- **Dr. S. Banerjee** Oral Presentation (**Invited Talk**) at **National Workshop** held on August 5-6, 2016 at the Department of Chemistry, Govt. G. N. A. P. G. College, Bhatapara, C.G.
9. Green Synthetic Route to Functionalized Bio-molecules Using Metal Oxide Nanoparticles as Catalyst- **Dr. S. Banerjee** – Poster Presentation at **17<sup>th</sup> CRSI National Symposium in Chemistry**, February 06-08, 2015 in the National Chemical Laboratory, Pune, India.
10. Nanoparticles: Promising Green Catalyst for the Synthesis of Heterocyclic Scaffolds – **Dr. S. Banerjee** – Oral Presentation (**Invited Talk**) at STTP on “**Recent Trends in Heterocyclic Compounds and Material Science**”, May 26-30, 2014, in Department of Chemistry, National Institute of Technology, Raipur, India.
11. Deposition of Vanadia-and Titania-Catalysts on Solid Supports Using Macrocyclic Organic Templates – Grigoriy Sereda, Ranjit T Koodali, Christopher Marshall, Rui Peng, **Subhash Banerjee**, Taejin Kim, H Subramanian, Aubrey Jones, Hari Khatri; Publication date 2013/9/8; Conference, Abstracts of Papers of The American Chemical Society, Volume 246, Publisher- AMER CHEMICAL SOC.
12. Ionic Liquids: Promising Green Catalysts for Modern Organic Synthesis- **Dr. S. Banerjee** – Oral Presentation (**Invited Talk**) at **National Conferences at Chouskey Engineering College (VAIMAS, 2013)**, September 12-13, 2013, Chouskey Engineering College, C.G. India.
13. Organic Reactions & Mechanism-Importance in Daily life – **Dr. S. Banerjee** – Oral Presentation (**Invited Talk**) at **Teacher Enrichment Programme in Chemistry**, May 03-04, 2013 at DAV Public School, Bilaspur, C.G., India.
14. Cubic Mesoporous Pd/Ru-MCM-48: An efficient Catalyst for Chemical Transformations - **Dr. S. Banerjee** – Oral Presentation at **International Conferences on Advance Chemical Engineering (ICACE-2013)**, March 05-06, 2013, Raipur Institute of technology, C.G. India.
15. Tuning of the Catalytic Activity and Selectivity in Organic Reactions Using Cubic Mesoporous Pd-MCM-48- **Dr. S. Banerjee** – Oral Presentation at **Recent Trends in Chemistry (RTC-212)**, January 23-25, 2012, Sikkim Manipal Institute of Technology, Majitar, East Sikkim, India.
16. Controlled Functionalization of Quantum Dots and Titania Nanorods with Trityl Resin as a Solid Support – **Dr. S. Banerjee**, V. Rajpara, G. Sereda, H. Rohwer, J. D., Hoefelmeyer – Poster presentation at the **SD-EPSCoR RII Track 1 PANS AAAS**

**Review/All Investigator Meeting and the Diversity Summit**, June 1-3, 2011, Chamberlin, South Dakota, USA

- 17.** Controlled Functionalization of Quantum Dots and Titania Nanorods with Trityl Resin as a Solid Support – **Dr. S. Banerjee**, V. Rajpara, G. Sereda, H. Rohwer, J. D., Hoefelmeyer – Poster presentation at the **241<sup>th</sup> ACS National Meeting & Exposition**, March 27-31, 2011, Anaheim, California, USA.
- 18.** Pd-MCM-48: An Efficient and Versatile Heterogeneous Catalyst for Chemo- and Regioselective Hydrogenation and Coupling Reactions – **Dr. S. Banerjee**, V. Balasanthiran, R. Koodali and G. Sereda – Oral presentation at the **241<sup>th</sup> ACS National Meeting & Exposition**, March 27-31, 2011, Anaheim, California, USA.
- 19.** Catalysis by Loose Silica and Graphite-Supported Iron-oxide NPs – A. Horn, **Dr. S. Banerjee**, T. Clark, V. Rajpara and G. Sereda, poster presentation at **NPURC Summer Symposium** August 6, 2010, Ponka, NE, USA.
- 20.** Catalysis by SiO<sub>2</sub> Nanoparticles: An Efficient and Reusable Catalyst for MCR Leading to Tetrahydrobenzo[b]pyran and Anilines Derivatives – **Dr. S. Banerjee**, A. Horn and G. Sereda, **the annual NSF EPSCoR RII All Investigator Meeting**, June 13-15, 2010, Chamberlin, South Dakota, USA.
- 21.** Recent Advances on Catalysis by Nano-materials – **Dr. S. Banerjee** – **Oral Presentation at the Workshop on “An introduction to catalysis and nanomaterials”** at the University of South Dakota, June 1-21, 2010, Vermillion, USA.
- 22.** Catalysis of Ionic Organic Reactions by Oxide Nanoparticles: Effect of The Graphite Support on Their Catalytic Activity – **Dr. S. Banerjee**, V. Rajpara and G. Sereda, Poster presentation at the **239<sup>th</sup> ACS National Meeting & Exposition**, March 21-25, 2010, San Francisco, California, USA.
- 23.** Catalytic Activity of Loose and Graphite-Supported Oxide Nanoparticles towards Ionic Organic Reactions – **Dr. S. Banerjee** and G. Sereda, Poster presentation at **5<sup>th</sup> Annual Minnesota Nanotechnology Conference**, November 17-18, 2009, Minnesota, Minneapolis, USA.
- 24.** Controlled Functionalization of Quantum Dots – V. Rajpara, **Dr. S. Banerjee** and G. Sereda, Poster presentation at **5<sup>th</sup> Annual Minnesota Nanotechnology Conference**, November 17-18, 2009, Minnesota, Minneapolis, USA.
- 25.** Iron Oxide Nanoparticles Deposited on Graphite as a Catalyst for Friedel – Crafts Alkylation – V. Rajpara, **Dr. S. Banerjee** and G. Sereda, **South Dakota/Wyoming EPSCoR State Conference**, September 23-24, 2009, Sioux Falls, South Dakota, USA.
- 26.** Remarkable catalytic activity of Free-Silica Nanoparticles in Organic Transformations - **Dr. S. Banerjee** and S. Santra, Oral Presentation at the **85<sup>th</sup> annual ACS Florida Annual Meeting and Exposition (FAME)**, May 14-16, 2009, Orlando, Florida, USA.

27. Native Silica Nanoparticles in Organic Transformations - J. Das, **Dr. S. Banerjee** and S. Santra, Oral Presentation at the **85<sup>th</sup> annual ACS Florida Annual Meeting and Exposition (FAME)**, May 14-16, 2009, Orlando, Florida, USA.
28. Multimodal Quantum Dot Based Probes for Non-Invasive Bio Imaging- **Dr. S. Banerjee** and S. Santra, Oral Presentation at the **2<sup>nd</sup> Annual “Young Researchers Forum”**, October 2007, Gainesville, Florida, USA.
29. Ionic Liquid as Catalyst and Reaction Media: Remarkable Catalytic Activity of [bmIm]OH in Michael addition and Alkylation of Active methylene Compounds – **S. Banerjee**, R. Jana and B. C. Ranu, **Poster presentation at 8<sup>th</sup> CRSI National Symposium in Chemistry**, February 3-5, 2006, IIT Bombay, India.
30. **S. Banerjee** – Participated at **7<sup>th</sup> CRSI National Symposium in Chemistry (NSC 7)**, February 4-6, 2005, Indian Association for the Cultivation of Science, Jadavpur, India.

### Administrative Responsibilities

- Academic coordinator of department of Chemistry, GGV
- Member of Board of Studies, Dept. of Chemistry, GGV: 2018-2019
- Member of Proctor board, GGV, July 2018 to present
- Member of implementation committee of smart class/E-class room in GGV- 2019
- Subject Coordinator of CSIR-NET Coaching Class in the Deptt. Of Chemistry, 2017-18
- Coordinator of Skill Development Cell of School of Physical Sciences,GGV 2016-2019
- Member of DST-FIST Project Implementation Committee - 2016-2020
- Member of Departmental Research Committee (DRC), GGV: 2013-Present
- Assistant Center Superintend in End Semester Examination, 2015, 2016, 2017
- Member of Design & Innovation Center, GGV, Bilaspur
- Assistant Center Superintend in VET, VRET, GGV, 2014, 2018
- Observer for the VET, in the Kolkata Examination Center, 2014, 2017, 2018
- Assistant Center Superintend in UGC-NET Exam., 2013
- Member of Departmental Purchase Committee, GGV, 2012-Present
- Member of Departmental Discipline Committee, GGV, 2013-Present
- Member of Scrutiny Committee for the selection of teachers in Chemistry, GGV, 2013
- Member of Scrutiny Committee for the selection of Teachers in Commerce, GGV, 2017
- Member of verification Committee for the selection of Teachers in Commerce, 2017
- Time Table in-Charge of Department of Chemistry 203-2019
- Teacher in Charge for Preparation of Annual Report/NIRF/NAAC of Dept of Chem.



## Skill Development Program Organized as Course Coordinator

- Two days Skill Development Training on “Material Characterization Techniques” as a course coordinator during February 16-17, 2017 in the School of Physical Sciences, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), India.
- Three days “Entrepreneurship Awareness Camp (EAC)” as a course coordinator during October 03-05, 2018 in the *School of Physical Sciences*, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), India.
- Two days Skill Development Training on “Basic Laboratory Skill and Safety Management in Physical Sciences” as a course coordinator during March 12-13, 2019 in the School of Physical Sciences, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), India.