Curriculum Vitae

Dr. Bharat Kumar

Dr. Bharat Kumar (M. Sc. - DDU Gorakhpur, India, M. E. - DU Delhi India, Ph. D. - IIT Delhi India, Post Doc- TUS Tokyo Japan)

Senior Assistant Professor and HOD

Address: Department of Chemistry, M V College Buxar (Veer Kunwar Singh University Ara), Bihar, India - 802101

Field of Research Interest:

Research work based on synthesis, functionalization and separation of monodisperse controlled size / shape nanostructured & nanoclusters by reverse micellar, solvothermal, hydrothermal, sonochemical and molten salt method for various properties such as electrocatalysis, photocatalysis, organic catalysis, water purification and magnetization.

Academic positions:

1. **Head of Department (Oct 2023 to till date)**
2. **College Finance Officer (Oct 2022 to till date)**
3. **Coordinator / center superintendent of IGNOU study center (Nov 2019 to Apr 2025)**
4. **Examination Controller (March 2018 to Oct 2021)**
5. **Nodal officer and admission incharge (June 2018 to Sept 2023)**
6. **Director / coordinator of evaluation center**
7. **Center superintendent of academic and competition examination**

Research Projects:

1. **Precise synthesis of monodisperse metal nanoclusters/nanostructures and its loading on 2D materials for high-activity water-splitting photocatalysts and electrocatalysts:** Rs 23.8 lacks from SERB, DST, Govt. of India, Oct 2023 to Sept 2026 as PI **(Running)**
2. **Synthesis of Pt metal nanoclusters with high activity**: ¥ 600,000 from Japan Science Society, Sasagawa Foundation during April 2016 to March 2017 as PI **(Completed)**

Teaching and Research Experience (Post Ph. D.):

1. **Senior Assistant Professor (Level 11th in 7th CPC): -** Nov. 2021 to till Date (**3.5** years)
2. **Assistant Professor (Level 10th in 7th CPC): -** Nov. 2017 to Oct 2021 (**4** years)
3. **Post-Doctoral Fellow: -** July 2015 to Dec 2016 (**1.5** years)

Educational qualification:

Project Fellow: - Jan 2015 to June 2015 (0.5 years)

Teaching assistantship: - Jan 2011 to Dec 2013 (6 semesters)

- Ph. D. thesis titled: - **Metal and metal oxide nanocomposites for efficient electrocatalytic and magnetic properties (Supervisor: Prof. Ashok K Ganguli)**
- M. E. thesis titled: - **Development of nano and micro silicon carbide incorporated carbon ceramic composites & Development of mesophase carbon pitch for synthesizing carbon fiber (Supervisor: Prof. G. L. Verma** and **Dr. G. Bhatia)**

S. N	Educational qualification	Institution	Grade / %	Year
1	Ph. D.	IIT Delhi	9.5 CGPA	2015
2	M. E.	Delhi Univ (DCE)	1st, 75.47 %	2009
3	M. Sc.	DDU Gorakhpur Univ	1st, 71.89 %	2006
4	B. Sc.	DDU Gorakhpur Univ	1st, 73.28 %	2004
5	12th	M G I C (U P Board)	1st, 68.80 %	2001
6	10th	N I C (U P Board)	1st, 72.17 %	1999

Instruments Operated:

Bruker D8-Advance Powder X-ray Diffractometer, Perkin – Elmer TGA/DTA/DSC Thermal Analyzer, Particle size and Zeta potential analyzer (Dynamic Light Scattering); Malvern Instruments, Nicolet FTIR Spectrophotometer, High Temperature Programmable Furnaces, Cyclic Voltammetry, Gas pycnometer, Surface area analyzer, UV–Vis spectrometry, Transmission Electron Microscopy, MALDI-Mass spectrometry, HPLC, GPC.

Academic Achievements and Awards during student periods:

- **Best poster award** in **JSPS-DST Asian Academic Seminar 2016** on paper entitled **"Functional Materials: Ultrasmall Metal Nanoclusters as Multifunctional Electrocatalysts"** organized by DST India, The University of Tokyo and Yokohama National University, Japan.
- Throughout First Class
- School topper in 10th & B.Sc. Industrial chemistry branch and M. Sc. (Inorganic chemistry) topper

- M. E. class representative in Delhi College of Engineering during session 2008 -2009.
- PG student representative of Board of Post Graduate Studies and Research during 2011-2012 session and Board of Academic Programme during session 20014-2015 (IIT Delhi)
- Ph D student representative of CAIC, IIT Delhi session 2013 – 2014
- Life time member of Material Research Society of India (MRSI)
- Significant contribution award from CAIC body, IIT Delhi

Activity with professional body during student periods:

- Organizing Committee member in **NSNT** meeting in Feb 2011 organized by IIT Delhi
- Organized **IUSSTF** (Indo – US meet) conference in June 2011 organized by IIT Delhi
- Organizing committee member of **NDCS** meeting in Dec 2012 organized by IIT Delhi
- Organizing Committee member of **ICONSAT** meeting in March 2014 and Indo **– US** meeting in May 2014 organized by Institute of Nano Science and Technology, Mohali

Co-curricular Activities and Co-Curricular Awards:

- Mess secretary of Barah Mihir hostel (Delhi College of Engineering) 2008-2009
- Mess secretary in Jwalamukhi hostel (IIT Delhi) session 2011 – 2012
- Post graduate student representative of Jwalamukhi House (IIT Delhi) during 2013-2014
- Outstanding contribution award (2012), Flame of Jwala (2013), Roll honor award (highest award of hostel, 2014) award from Jwalamukhi hostel, IIT Delhi
- Best mess secretary BHM award in IIT Delhi during 2011-2012 session

References:

1. **Prof. Ashok K Ganguli (Ph. D. supervisor)**
   Director, IISER Berhampur, Odisha, India (Professor at Dept of Chemistry, IIT Delhi),
   Email: ashok@chemistry.iitd.ac.in, ashokganguliiitd@gmail.com
2. **Prof. Yuichi Negishi (Post Doc. Supervisor)**
   HOD, Department of Applied Chemistry
   Tokyo University of Science, Kagurazaka, Shinjuko-ku, Tokyo, Japan-1628601
   Email: negishi@rs.kagu.tus.ac.jp
3. **Prof. K. V. Ramanujachary**
   Department of Chemistry and Biochemistry, Rowan University, 201 Mullica Hill Road, Glassboro, NJ 08028-1701, USA
   Email: chary@rowan.edu

4. **Dr. Pramit K Chowdhury**

Department of Chemistry, Indian Institute of technology Delhi, Hauz Khas, New Delhi-110016

Email: pramitc@chemistry.iitd.ac.in

Profile:

- Enthusiastic, responsible, able to work independently using initiative, and as part of a team with a positive attitude. Proficient in teaching with innovative ideas and emphasis on problem solving skills.
- Strong point: Confidence, Faith, Patience, Continuity and Sincerity.

Personal Information:

Date of Birth	:	May 03, 1985
Sex/ Nationality/ Status	:	Male/ Indian/ Married
Languages known	:	Hindi and English

I hereby declare that the above information is true to best of my knowledge.

Place: Buxar, Bihar

Date: 20th June 2025 **Bharat Kumar**

List of Publications (Google citations: 2500, h-index: 24, i10-index: 28, IF: 180)

Research Papers Published in Cited Journals:

1. "Pd (II)-complexes of telluro-substituted Schiff base ligands: Effect of the pendant alkyl group on Suzuki and Heck coupling through in situ generated palladium nanoparticles" Poonam Kaswan, Nisha Yadav, Divya Choudhary, Chandra Mohan Srivastava, **Bharat Kumar**, Jahangeer Ahmed, Gyandshwar Kumar Rao, **Inorganica Chimica Acta, 2023**, 556, 121671. **(I F – 2.8)**
2. "Synthesis, crystal structure and thermolysis kinetics of $[Co(H_2O)_6](ClO_4).(HMTA)_2.2H_2O$ (HMTA = Hexamethylenetetramine)" Chandra Prakash Singh, Abhishek Singh, Nibha, Constantin G. Daniliuc, **Bharat Kumar**, Gurdip Singh, D P Rao, **Indian Journal of Chemistry**, **2021**, 60, 676-681. **(I F – 0.4)**
3. "Gold nanoclusters as electrocatalysts: Size, Ligands, heteroatom doping and charge dependences" **Bharat Kumar**, Tokuhisa Kawawaki, Nobuyuki Shimizu, Yukari Imai, Daiki Suzuki, Sakiat Hossain, Lakshmi V. Naira, Yuichi Negishi, **Nanoscale**, **2020**, 12, 9969-9979 **(Selected as Front Cover) (I F – 6.7)**
4. "Alloy Clusters: Precise Synthesis and Mixing Effects" Sakiat Hossain, Yoshiki Niihori Lakshmi Nair, **Bharat Kumar**, Wataru Kurashige, Yuichi Negishi, **Account of Chemical Research**, **2018**, 51, 3114-3124. **(Selected as supplementary cover) (I F – 18.3)**
5. "Atomic and Isomeric Separation of Thiolate-Protected Alloy Clusters" Yoshiki Niihori, Yuki Koyama, Seiichiro Watanabe, Sayaka Hashimoto, Sakiat Hossain, Lakshmi Nair, **Bharat Kumar**, Wataru Kurashige, Yuichi Negishi, **J. Phys. Chem. Lett.**, **2018**, 9, 4930-4934. **(Selected as supplementary cover) (I F – 5.7)**
6. "Hetero-biicosahedral $[Au_{24}Pd(PPh_3)_{10}(SC_2H_4Ph)_5Cl_2]^+$ nanocluster: selective synthesis and optical and electrochemical properties" Lakshmi Nair, Sakiat Hossain, Shunjiro Takagi, Yukari Imai, Guoxiang Hu, Shota Wakayama, **Bharat Kumar**, Wataru Kurashige, De-en Jiang, Yuichi Negishi, **Nanoscale, 2018**, 10, 18969-18979. **(Selected as back cover) (I F – 6.7)**
7. "$[Pt_{17}(CO)_{12}(PPh_3)_8]^{n+}$ (n = 1, 2): synthesis and geometric/electronic structures". Lakshmi V. Nair, Sakiat Hossain, Shota Wakayama, Shunjiro Takagi, Mahiro Yoshioka, Juri Maekawa, Atsuya Harasawa, **Bharat Kumar**, Yoshiki Niihori, Wataru Kurashige, Yuichi Negishi, **J. Phys. Chem. C**, **2017**, 121, 11002-11009. **(I F – 3.7)**

8. "Perspective: exchange reactions in thiolate-protected metal clusters". Yoshiki Niihori, Sakiat Hossain, **Bharat Kumar**, Lakshmi V. Nair, Wataru Kurashige, Yuichi Negishi, **APL Materials, 2017**, 5, 05320. **(I F – 6.1)**
9. "Understanding and practical use of ligand and metal exchange reactions in thiolate-protected metal clusters for the creation of controlled metal clusters". Yoshiki Niihori, Sakiat Hossain, Sachil Sharma, **Bharat Kumar**, Wataru Kurashige, Yuichi Negishi, **The Chemical Record, 2017**, 17, 473-484 (**selected as front cover)**. **(I F – 6.6)**
10. "Biomass derived graphene-like activated and non-activated porous carbon for advanced supercapacitors". Kasinath Ojha, **Bharat Kumar**, Ashok K Ganguli, **J. Chem. Sci.**, **2017,** 129, 397-404. **(I F – 1.6)**
11. "Ligand-exchange reactions in thiolate-protected Au_{25} nanocluster with selenolates or tellurolates: preferential exchange sites and effects on the electronic structure". Sakiat Hossain, Wataru Kurashige, Shota Wakayama, **Bharat Kumar**, Lakshmi V. Nair, Yoshiki Niihori, Yuichi Negishi, **J. Phys. Chem. C**, **2016**, 120, 25861-25869 **(I F – 3.7)**
12. "Improvements in the ligand-exchange reactivity of phenylethanethiolate-protected Au_{25} nanocluster by Ag or Cu incorporation". Yoshiki Niihori, Makoto Eguro, Ayano Kato, Sachil Sharma, **Bharat Kumar**, Wataru Kurashige, Katsuyuki Nobusada, Yuichi Negishi, **J. Phys. Chem. C**, **2016**, 120, 14301-14309. **(I F – 3.7)**
13. "Thermal decomposition and their kinetics of nickel (II) and zinc (II) perchlorate complexes with 4-aminopyridine and water". Chandra Prakash Singh, Ashok Kumar Srivastava, Abhishek Singh, **Bharat Kumar**, **Energy and Environment Focus**, **2016**, 5, 23-28 **(I F – 0)**
14. "Composites of graphene-Mo_2C rods: highly active and stable electrocatalyst for hydrogen evolution reaction". Kasinath Ojha, Soumen Saha, Hristo Kolev, **Bharat Kumar**, Ashok K Ganguli, **Electrochemica Acta, 2016,** 193, 268-274. **(I F – 6.6)**
15. "Controlling morphology and efficiency of nanostructured Mo_2N electrocatalyst for hydrogen evolution reaction". Kasinath Ojha, Soumen Saha, **Bharat Kumar**, Kiran Sankar Hazra, Ashok K Ganguli, **ChemCatChem, 2016**, 8, 1218-1225. **(I F – 5.5)**
16. "Cu based nanocomposites as multifunctional catalysts". **Bharat Kumar**, Gyandshwar Kumar Rao, Soumen Saha, Ashok K Ganguli, **ChemPhysChem**, **2016**, 17, 155-161. **(I F – 3.5)**

17. "Palladium (II)-1-phenylthio-2-arylchalcogenoethane complexes: palladium phosphide nano-peanut and ribbon formation controlled by chalcogen and Suzuki coupling activation". Gyandshwar Kumar Rao, Arun Kumar, Fariha Saleem, Mahabir P. Singh, Satyendra Kumar, **Bharat Kumar**, Goutam Mukherjee, Ajai K. Singh, **Dalton Trans.**, **2015**, 44, 6600-6612. **(I F – 4.0)**
18. "A facile one step synthesis of Cu/Cu_2O nanocomposites: enhanced hydrogen/oxygen evolution". **Bharat Kumar**, Soumen Saha, Kasinath Ojha, Ashok K Ganguli, **Mater. Res. Bull.**, **2015**, 64, 283-287. **(I F – 5.6)**
19. "Preparation, crystal structure and thermal studies of cadmium perchlorate complex with 2, 2′-bipyridine". Chandra Prakash Singh, Abhishek Singh, Nibha, Constantin G. Daniliuc, **Bharat Kumar**, Gurdip Singh, **J. Therm. Anal. Calorim.**, **2015**, 121, 633-640. **(I F – 4.4)**
20. "Synthesis of novel and stable g-C3N4/N-doped SrTiO3 hybrid nanocomposites with improved photocurrent and photocatalytic activity under visible light irradiation". S Kumar, T Surendar, A Baruah, **Bharat Kumar**, V Shanker, **Dalton Trans.**, **2014**, 43, 16105-16114. **(I F – 4.0)**
21. "Cost-effective and eco-friendly synthesis of a novel and stable N-doped $ZnO/g\text{-}C_3N_4$ core-shell nanoplates with excellent visible-light responsive photocatalysis". Santosh Kumar, Arabinda Baruah, Surendar T, **Bharat Kumar**, Vishnu Shanker, Sridhar B, **Nanoscale**, **2014**, 6, 4830-4842. **(I F – 6.7)**
22. "A facile low temperature (350 °C) synthesis of Cu_2O nanoparticles and its electrocatalytic and photocatalytic properties". **Bharat Kumar**, Soumen Saha, Aparna Ganguly, Ashok K. Ganguli, **RSC Advances**, **2014**, 4, 12043-12049. **(I F – 3.9)**
23. "Synthesis of highly efficient and recyclable visible-light responsive mesoporous $g\text{-}C_3N_4$ photocatalyst via facile template-free sonochemical route". Santosh Kumar, Surendra T, **Bharat Kumar**, Arabind Baruah, Vishnu Shanker, **RSC Advances**, **2014**, 4 8132-8137. **(I F – 3.9)**
24. "$g\text{-}C_3N_4/NaTaO_3$ organic-inorganic hybrid nanocomposites: High-performance and recyclable visible light driven photocatalyst". Santosh Kumar, **Bharat Kumar**, Surendra T, Vishnu Shanker, **Mater. Res. Bull.**, **2014**, 49, 310-318. **(I F – 5.6)**
25. "Synthesis of magnetically separable and recyclable $g\text{-}C_3N_4\text{-}Fe_3O_4$ hybrid nanocomposite with enhanced photocatalytic performance under visible-light irradiation". Santosh Kumar,

Surendra T, **Bharat Kumar**, Arabind Baruah, Vishnu Shanker, **J. Phys. Chem. C**, **2013**, 117, 26135-26143. **(I F – 3.7)**

26. "Hierarchical ZnO "rod like" architecture synthesized by reverse micellar route for improved photocatalytic activity". Santosh Kumar, Surendra T, Debashree Das, **Bharat Kumar**, Vishnu Shanker, **Materials Letters**, **2013**, 101, 33-36. **(I F – 3.0)**
27. "Enhanced hydrogen/oxygen evolution and stability of nanocrystalline (4–6 nm) copper particles". **Bharat Kumar**, Soumen Saha, Mrinmoyee Basu, Ashok K. Ganguli, **J. Mater. Chem. A**, **2013**, 1, 4728-4735. **(I F – 11.9)**
28. "Surface decoration through electrostatic interaction leading to enhanced reactivity: Low temperature synthesis of nanostructured chromium borides (CrB and CrB_2)". Menaka, **Bharat Kumar**, Sandeep Kumar, A.K. Ganguli, **J. Solid State Chem.**, **2013**, 200, 117-122. **(I F – 2.7)**
29. "Kinetics of thermolysis of nickel perchlorate complex with 2-aminopyridine ligand". Chandra Prakash Singh, Ashok Kumar Srivastava, Abhishek Singh, **Bharat Kumar**, **Int J Eng Res and Sci Technol.**, **2013**, 2, 143-152. **(I F – 0)**
30. "Didocosyl selenide stabilized recyclable Pd (0) nanoparticles and coordinated palladium (II) as efficient catalysts for Suzuki–Miyaura coupling". Gyandshwar Kumar Rao, Arun Kumar, **Bharat Kumar**, Ajai K. Singh, **Dalton Trans.**, **2012**, 41, 4306-4309. **(I F – 4.0)**
31. "Palladium (II)-selenated Schiff base complex catalyzed Suzuki–Miyaura coupling: Dependence of efficiency on alkyl chain length of ligand". Gyandshwar Kumar Rao, Arun Kumar, **Bharat Kumar**, Dinesh Kumar, Ajai Kumar Singh, **Dalton Trans.**, **2012**, 41, 1931-1937. **(Selected as front cover) (I F – 4.0)**
32. "Binary Fe-Co alloy nanoparticles showing significant enhancement in electrocatalytic activity compared with bulk alloys". Jahangeer Ahmed, **Bharat Kumar**, Phong Trinh, Amos M. Mugweru, Kandalam V. Ramanujachary, Samuel E. Lofland, Ashok K Ganguli, **J. Phys. Chem. C**, **2010**, 114, 18779-18784. **(I F – 3.7)**

Book Chapter

1. "Environmental and health impact of non-metallic quantum dots". Rajkanya Das, Krishna Moni Deka, Priya Ghosh, **Bharat Kumar**, Arabinda Baruah. "**Non-metallic quantum dots"** Chapter 15, Bentham Science **2025.**
2. "Graphene based nano-biosensors". Rachita Newar, Pranjit Sarma, Nitul Kalita, Priya Ghosh, Masood Nath, **Bharat Kumar**, Arabinda Baruah. Advances in Biotechnology and Bioengineering **"One- and Two – Dimensional NANOMATERIALS"** Chapter 4, page 95-114, Academic Press (An imprint of **Elsevier**) 2025.
3. "Controlled thiolate-protected gold and alloy clusters". **Bharat Kumar**, Yoshiki Niihori, Wataru Kurashige, Yuichi Negishi. Takashiro Akitsu Eds. "**Descriptive Inorganic Chemistry Researches of Metal Compounds"** Chapter 3, page 49-64, InTech publishing **(2017).**

Invited/Oral Talk

1. Invited talk entitled **"What drives science & Scientists? Chemistry to Advance Materials"** was delivered in **Lecture Workshop on Current Trends in Science and Technology: Rural Development** organized by G B College Ramgarh and CRSI Local Chapter Bihar and Jharkhand in Ramgarh, Kaimur, Bihar, India (29th March 2025).
2. Invited talk entitled **"Ultrasmall Nanostructured Materials as Multifunctional Applications"** was delivered in **3rd International Conference on Energy, Functional Materials/Molecules and Nanotechnology (ICEFN & NWSWM - 2025)** organized by Kumaun University in Nainital, India (20th – 22th March 2025).
3. Poster presented entitled **"Use of advance materials for spiritual water purification and energy applications"** was delivered in **National Seminar on Science, Spirituality &Tradition at Mahakumbh - 2025** organized by Bundelkhand University in Jhanshi, UP, India (24th – 25th February 2025).
4. Poster presented entitled **"Thiolate Protected Gold Nanoclusters as Versatile Multifunctional Applications"** was presented in **DAE-BRNS 10th Interdisciplinary Symposium on Materials Chemistry (ISMC–2024)** organized by Bhabha Research Atomic Center (BARC) Mumbai in BARC Mumbai, India (4th – 7th December 2024).

5. Invited talk entitled **"Metal Nanostructured Materials as Multicatalytic Applications"** was delivered in **National Seminar on Recent Trends in Chemical Science for Sustainable Development** organized by P G College Siwan in Siwan, Bihar, India (19-20 Nov 2024).
6. Invited talk entitled **"Cu based catalysts for multifunction application"** was delivered in **ICAMEH 2024 International Conference** organized by T P S College Patna in Patna, Bihar, India (17-19 Oct 2024).
7. Invited talk entitled **"Nanomaterials and nanoclusters for different properties aspect"** was delivered in **National conference on recent trend in Physics** organized by Sri Sankar College in Sasaram, Bihar, India (12-13 March 2024).
8. Invited talk entitled **"Ultrasmall metal nanoclusters as multifunctional applications"** was delivered in **International Meeting on Physics and Chemistry of Advanced Materials (PCAM)** organized by IIT Delhi, in New Delhi India (24-27 October 2021)
9. Invited talk entitled **"Nanostructured functional materials as multifunctional applications"** was delivered in **national conference on recent advances in drug development and functionalized materials** organized by V. K. S. University, Ara in Ara, India (09-10 December 2019).
10. Invited talk entitled **"Nanostructured Materials: From Hydrogen energy to water purification"** will be deliver in **International Seminar on Green Chemistry: Synthesis, Processing & Devices** organized by V. K. S. University, Ara in Ara, India (06-07 April 2018).
11. Oral talk entitled **"Ultrasmall Metal Nanoclusters as New route of Catalysis"** was delivered in **International conference on Emerging Trends in Chemical Sciences** organized by D. D. U. Gorakhpur University, Gorakhpur in Gorakhpur, India (24-25 Feb 2018).
12. Invited talk entitled **"Use of nanostructured materials for energy and water purification applications"** was delivered in **National conference on Reaching the Unreached through Science and Technology** organized by Magadh University, Bodh Gaya in Bodh Gaya, India (18-19 Nov 2017).
13. Invited talk entitled **"Functional Materials: Nanostructured Materials to Ultrasmall Metal Nanoclusters as Multifunctional Applications"** was delivered in **International**

conference on green chemistry & environmental health organized by Marwar Business School Gorakhpur in Gorakhpur, India (25-26 Sept 2017).

14. Oral talk entitled **"Functional Materials: Ultrasmall Metal Nanoclusters as Multifunctional Electrocatalysts"** was presented in **JSPS-DST Asian Academic Seminar 2016** organized by The University of Tokyo and Yokohama National University, Japan (14^{th} – 20^{th} December 2016).

Conferences Paper/ School

1. Poster entitled **"Functional Materials: Ultrasmall Metal Nanoclusters as Multifunctional Electrocatalysts"** was presented in **JSPS-DST Asian Academic Seminar 2016** organized by The University of Tokyo and Yokohama National University, Japan (14^{th} – 20^{th} December 2016).
2. Attended "**International Symposium on Monolayer Protected Clusters 2015**" organized by **the University of Tokyo and Tokyo University of Science, Japan** held at Yamanashi Japan during 13-16 July, 2015.
3. Poster entitled **"Metal nanostructured (Co and Cu) for electrocatalytic application"** was presented in Advanced Materials meeting at held at Manali (Himachal Pradesh) organized by INST Mohali (28^{th} – 1^{st} June 2014).
4. Poster entitled **"Electrocatalytic application of Cu, Cu_2O nanoparticles and Cu/Cu_2O nanocomposites"** was presented in ICONSAT 2014 held at Punjab University organized by INST Mohali (2^{nd} – 5^{th} march 2014).
5. Poster entitled **"Copper based nanostructure for electrocatalytic and magnetic application"** was presented in the NHCS-2013 meeting at IIT Delhi (16^{th} Nov 2013).
6. Poster entitled **"Synthesis of copper nanoparticles and their electrochemical studies"** was presented in the CRSI – 2013 meeting 1^{st} – 3^{rd} Feb 2013 was attended in Varanasi organized by BHU, Varanasi.
7. Poster entitled **"Electrocatalytic application of copper nanoparticles (4-6 nm)"** was presented in the NDCS-2012 meeting at IIT Delhi (7^{th} - 9^{th} Dec 2012).
8. Attended The DAE-BRNS National Workshop on Materials Chemistry (Functional Materials) (NWMC 2011- FUNMAT), organized by the Chemistry Division and Society for Materials Chemistry, and was held at BARC during 7-8 December, 2011.
9. Poster entitled "**Synthesis and properties of $SrTiO_3$: Enhancement of dielectric properties"** was presented in the 7^{th} National symposium and conferences on solid state

chemistry & allied areas (ISCAS-2011) at Jamia Millia Islamia, Delhi (24^{th} - 26^{th} Nov 2011).

10. Poster entitled "**Enhanced magnetization in nano – micron composites of $La_{0.82}Sr_{0.18}MnO_3$"** was presented in the INDO-US Meeting on New Functional Materials: Synthesis, Properties and Methods (IUSSTF 2011) at Manali organized by Indian Institute of Technology, Delhi (2^{nd} -7^{th} June 2011).
11. Poster entitled "**Enhanced magnetization in nano – micron composites of $La_{0.82}Sr_{0.18}MnO_3$"** was presented in the National Review Meeting of Nanoscience & Nanotechnology (NSNT-2011) at Indian Institute of Technology, Delhi (25^{th} - 27^{th} Feb 2011).
12. Short course on basics of Microfluidics/Microtechnology organized by IIT Delhi and Swiss Institute of Technology (EPFL) at IIT Delhi 25^{th} January – 09^{th} February 2011.
13. ^{5th} DST Advanced School on Nanoscience and Nanotechnology 1^{7th} –2^{3th} January 2011 was attended in Bangalore organized by Indian Institute of Science and Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore.

Work published in news articles and magazine

नदियों का पानी होगा साफ

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From IIT: Cleaning toxic water for rivers, faster typhoid diagnosis

TECH THAT HELPS Scholars develop material that absorbs effluents as they flow through pipes and device that helps in early and cheaper detection of typhoid

Shradha Chettri

NEW DELHI: A group of scholars from the Indian Institute of Technology (IIT) Delhi have developed a material that can easily absorb toxic elements and allow only treated water to be discharged into rivers.

The innovation, that makes use of cheap nano material readily available in markets, comes at a time when the government has been coming up with new ways and methods to clean the water bodies of Delhi, especially the Yamuna.

The technology envisions the special material being coated with starch and other chemicals, and then used inside the