




Professor Monika Datta

Title	Professor	First Name	Monika	Last Name	Datta	Photograph
Designation	Professor					
Address	C – 2, Maurice Nagar University of Delhi Delhi 110007					
Phone No. Office Extension	011- 27667725 1375					
Residence Mobile	011-2766 7024 +919811487825					
Email	monikadatta_chem@yahoo.co.in					
Web-Page	du.ac.in					
Educational Qualifications						
Degree	Institution				Year	
Ph.D.	Ph.D. (Analytical Chemistry) Indian Institute of Technology, Bombay.				1978	
P.G.	M.Sc.(Chemistry) Banaras Hindu University, Varanasi.				1973	
U.G.	B.Sc. (Physics, Chemistry and Mathematics) Banaras Hindu University, Varanasi.				1971	
Career Profile						
July 1998 – till date	Professor (Faculty Position) Department of Chemistry University of Delhi, India					
May 1987 – July 1998	Professor (Faculty Position) Department of Chemistry University of Delhi, India					
July 1992 – May 1996 (On leave from D. U.)	Fellow (Research and Teaching position) Jawaharlal Nehru Centre for Advanced Scientific Research Bengaluru, India					
December 1986 – May 1987	Pool Officer (Faculty Position) Department of Chemistry University of Delhi, India					
September 1985 – March 1986	Post Doctorate Associate (Research position) University of California Santa Barbara, U.S.A.					
November 1983 – August 1985	Post Doctorate Associate (Research position) Corporate Research Laboratory Monsanto Company St. Louis, U.S.A.					

June 1982 – September 1983	Post Doctorate Fellow (Research position) University of Alberta Edmonton, Canada
May 1980 – April 1982	Post Doctorate Fellow (Research position) University of Strathclyde Glasgow U.K.
August 1979 – May 1980	Pool Officer (Research and Teaching position) Indian Institute of Technology (I.I.T.) Bombay, India
September 1978 – July 1979	Research Associate (Research position) Institute of Science Bombay, India
January 1974 – August 1978	Junior & Senior Research Fellow (CSIR) Indian Institute of Technology (I.I.T.) Bombay, India
Administrative Assignments	
Warden, University Hostel for Women, University of Delhi, Chhatra Marg, Delhi 110007	
Provost, International Student House for Women, University of Delhi, Mukherjee Nagar, Delhi 110009	
Areas of Interest / Specialization	
<p>The research group presently consists of 05 research scholar (including 02 post-doctoral research fellow) engaged in the following research areas:</p> <ol style="list-style-type: none"> 1. Nanoclay Composite as Oral Sustained Release Drug Delivery System: Challenges and Prospective. Supported by UGC 2. Application of clay and nanoclay composites for recovery of toxic and valuable chemicals. Supported by University of Delhi. 3. Application of clay composite as nano colorant for polymers, plastic paints etc. Supported by University of Delhi. 4. Development of nutrient encapsulated seed coating material for their controlled release in soil. Supported by University of Delhi. 5. Application of bio-composites for the removal of toxic metal ions from aqueous solution. Supported by UGC 	

6. Utilization of fly ash, as a precursor for synthesis of value added products.
Supported by University of Delhi.

Subjects Taught

Inorganic Chemistry Stability constants of metal complexes and their applications
Inorganic Chemistry Inorganic Reaction Mechanisms
Inorganic Chemistry Silicates and aluminosilicates
Inorganic Chemistry Analytical techniques (Instrumentation and Application)
Inorganic Chemistry Nuclear and Radiochemistry

Research Guidance

1. Supervision of awarded Doctoral Thesis

Seema. 2014. Clay and Clay Polymer Nanocomposites: A Class of Novel Materials for Oral Drug Delivery System. University of Delhi.

Kaur, M. 2014. Versatile Use of Clay Nanocomposites as Adsorbents, Colorants and Drug Delivery Vehicle. University of Delhi.

Mangal, Harsha. 2014. Nano Metal Oxides and Impregnated Metal Oxides: Synthesis, Characterization and Applications for Removal of Toxic Chemicals. University of Delhi.

Singhal, Rahul. 2014. Montmorillonite-Polymer Nanocomposites as Drug Delivery Vehicles. University of Delhi.

Anjum, Ansar. 2014. Detection and Extraction of Toxic Metal Ions (As, Sb, V) from Aqueous Media using Naturally occurring Clay and their Composites. University of Delhi.

Dhand, Chetna. 2012. Synthesis and Characterization of Conducting Polymers for sensor Application. University of Delhi.

Kundra, Hema. 2010. Synthesis and Characterization of Value Added Products from Fly Ash. University of Delhi.

Pandey, Pratibha. 2010. Preparation, Characterization and Application of some nanomaterial to Glucose Biosensor. University of Delhi.

Lokeswari, P. 2010. Adsorptive Removal of Carcinogenic Textile Dyes form Water by Montmorillonite and Montmorillonite Nanocomposite. University of Delhi.

Arya, Sunil Kumar. 2008. Preparation, Characterization and Application of some monolayer to cholesterol biosensor. University of Delhi.

Chaudhary, Reshu. 2008. Importance of Heteropolyacid Pillared Clays in Organic Chemistry. University of Delhi.

Setiya, Neetu. 2004. Pillared Clays: Synthesis and Characterization. University of Delhi.

Jha, Shiv Kumar. 1998. Spectroscopic Characterization of Catalyst Interface. University of Delhi.

2. Supervision of Doctoral Thesis, under progress

Kumari Neeraj. Multifunctional Application of Clay and Clay Nanocomposite. University of Delhi (Date of Registration: 26-06-2013).

Kumari, Priyanka. Analytical Application of Nano Clay Composite. University of Delhi. (Date of Registration: 01-02-2013).

Kant, Arun. Analytical Application of Aluminosilicate. University of Delhi. (Date of Registration: 19-09-2011).

Gaijon, Panmei. Application of Modified Clay and Zeolite. University of Delhi (Date of Registration: 24-11-2009.)

Jain, Shilpa. Application of Nano Clay Composites. University of Delhi. (Date of Registration: 06-05-2009).

3. Supervision of awarded M.Phil dissertations

Debnath Anamika 2011. Application of Smectite Group of Clays for Removal of Textile Azo Dyes from Water Medium. University of Delhi.

Sharma Rajkumar 2010. Synthesis of Framework Alumino Silicate from Fly Ash. University of Delhi.

Chandra Mohan 2009. Synthesis of New Series of Acid Catalyst: Heteropolyacid. University of Delhi.

Kaur Manpreet 2006. Application of Clay and Nano Clay Dye Composite. University of Delhi.

Singhal Rahul 2005. Nano Composite of Bentonite Clay with Organic Polymer. University of Delhi.

Ajay Kumar Srivastva 1999. Relative Stability of Fullerene Soots. University of Delhi.

Archana Gupta 1998. Intercalation Of Layered Vanadyl pyrophosphate. University of Delhi.

1. Books (Reviewed)

Ion exchange and solvent extraction of metals, by S M Khopkar.

Buckminster fullerene, by W E Billups and M A Ciutolini.

Measurement of uncertainty in chemical analysis.

2. Research papers published in Refereed/Peer Reviewed Journals

Jain, S.; **Datta, M.**; 2015. Oral extended release of dexamethasone: Montmorillonite–PLGA nanocomposites as a delivery vehicle. *Applied clay science*, 104, 182–188.

Seema, **Datta, M.**; 2015. In vitro prolonged gastric residence and sustained release of atenolol using novel clay polymer composite. *Applied clay science*, 114, 412-421.

Jain, S.; **Datta, M.**; 2014. Montmorillonite-PLGA nanocomposites as an oral extended drug delivery vehicle for venlafaxine hydrochloride. *Applied clay science*, 99, 42-47.

Kant, A; **Datta, M.**; 2014. Adsorption characteristics of victoria blue on low cost natural sand and its removal from aqueous media. *European chemical Bulletin*, 3(8), 752-759.

Jain, S.; **Datta, M.**; 2014 Naturally occurring clay, montmorillonite, as a drug delivery vehicle for in vitro extended release of venlafaxine hydrochloride. *European chemical Bulletin*, 3(7), 672-681.

Nadeem, U; **Datta. M.**; 2014. Adsorption studies of zinc(II) ions on biopolymer composite beads of alginate-fly ash. *European chemical Bulletin. European Chemical Bulletin*, 3(7), 682-691.

Seema, **Datta, M.**; 2014. Organoclay pluronic f68 – montmorillonite, as a sustained release drug delivery vehicle for Propranolol hydrochloride. *European chemical Bulletin*. 3(6), 593-604.

Kaur, M., **Datta, M.**; 2014. In vitro release of sodium diclofenac from poloxamer 188 modified montmorillonite as an oral drug delivery vehicle. *International Journal of Pharmacy and Pharmaceutical Sciences*, 6(5).

Kaur, M., **Datta, M.**; 2014. Diclofenac sodium adsorption onto montmorillonite: adsorption equilibrium Studies and drug release kinetics. *Adsorption science & technology*, 32(5).

Chaudhary ,R.; **Datta M.** 2014. Synthesis of Coumarin Derivatives: A Green Process, *European Chemical Bulletin*, Vol. 3 issue 1, Page no. 63-69.

Chaudhary ,R.; **Datta M.** 2014. Comparative study of efficiency of heteropoly acids intercalated Bentonite, *International Journal of Chemical & Petrochemical Technology*, Vol 4, issue 1, 2014, 19-22.

Chaudhary ,R.; **Datta M.** 2013. Silicotungstic Acid Modified Bentonite: An Efficient Catalyst for Synthesis of Acetal Derivatives of Aldehydes and Ketones, *Journal of*

Analytical Sciences, Methods and Instrumentation, Vol.3, 193-201. ISSN (P): 2164-2745
ISSN (E): 2164-2753.

Chaudhary ,R.; **Datta M.** 2013. A Solvent Free Method For Deoxygenation Reaction,
International Journal of Applied, Physical and Bio-Chemistry Research, Vol. 3 issue 5,.1 -
12.

Seema, **Datta, M.**2013.In Vitro Sustained Delivery of Atenolol, An Antihypertensive Drug
Using Naturally Occurring Clay Mineral Montmorillonite As A Carrier.European chemical
Bulletin, 2(11), 942-951.

Seema, **Datta, M.**2013.Clay–Polymer Nanocomposites As A Novel Drug Carrier:
Synthesis, Characterization And Controlled Release Study Of Propranolol Hydrochloride.
Applied Clay Science,80–81, 85–92.

Kaur, M., **Datta, M.**2013.Synthesis and Characterization of Biodegradable Clay- Polymer
Nanocomposites For Oral Sustained Release of Anti-inflammatory Drug. European
chemical Bulletin ,2(9), 670-678.

Kaur, M., **Datta, M.**2013. Adsorption Equilibrium and Kinetics of Toxic Dye-Erythrosine
B Adsorption onto Montmorillonite. Adsorption Science & Technology, 48 (9) 1–12.

Seema, **Datta, M.**2013. MMT-PLGA Nanocomposites as an Oral and Controlled Release
Carrier For 5 - Fluorouracil: A Novel Approach. International Journal of Pharmacy and
Pharmaceutical Sciences, 5(2) 332-341.

Anjum, A. Seth, C., K. and **Datta, M.** 2013. Removal of As^{3+} from ppb level using chitosan-
MMT composite: Sorptive Equilibrium and Kinetics. Adsorption Science and Technology.
Adsorption Science & Technology;2013, Vol. 31 Issue 4,303-324.

Jain, S., and **Datta, M.** 2012.pH metric titration: A green Approach International Journal of
Current Chemistry Vol. 3 (1 & 2) , 15-22.

Anjum, A. and **Datta, M.** 2012. Adsorptive removal of Antimony (III) using modified
montmorillonite: A study on Sorption Kinetics. Journal of Analytical Sciences, Methods and
Instrumentation, 2012, 2, 167-175.

Anjum, A. and **Datta, M.** 2012. Adsorptive Removal of Antimony (III) using
Montmorillonite:A Study on Sorptive Kinetics. Journal of Analytical Sciences, Methods
and Instrumentation. Journal of Analytical Sciences, Methods and Instrumentation, 2012, 2,
167-175.

Anjum, A., Punnuswamy, L., Kaur, M., and **Datta M.**, 2011.Removal of Arsenic (III) from
Aqueous Solution by Montmorillonite Clay. Journal of Analytical Science, Methods &

Instrumentation. 1 (2) 25-30.

Jain, S. **Datta, M.** 2011. Electrochemical Method for Micro Titration: A Green Approach, at Proceeding of ISEAC International Symposium Cum Workshop on Electrochemistry at Goa, India 103-107.

Kaur, M., **Datta, M.**, 2011. Adsorption Characteristics of Acid Orange 10 from Aqueous Solution onto Montmorillonite Clay. Adsorption Sciences & Technology, 29, 3.

Dhand, C., Das, M., **Datta M.**, 2011. Malhotra B.D. Recent Advances in Polyaniline Based Biosensor. Biosensor & Biotechnology, 26 (6), 2811-2821.

Seema, **Datta, M.** and B.D. Malhotra 2010. Clay nanocomposites as oral drug delivery System for an anticancer drug; Biomedical Applications of Nanostructure Materials, ISBN 023-033-021-3. (Macmillan Advanced Research Series) 405-410.

Dhand, C., Sumana G., **Datta, M.** 2010. Malhotra, B.D. Electrophoretically Deposited Nano-structured Polyaniline film for Glucose-Sensing. Thin Solid Film, 591 (3), 1145-1150.

Dhand, C., Solanki, P. R., Pandey, M. K., **Datta, M.** 2010. Malhotra B. D. Polyaniline/Single-Walled carbon Nanotube Composite Based Triglyceride Biosensor. Electro analysis 22 (22), 2683-2693.

Dhand, C., Solanki, P.R., Pandey, M.K., **Datta, M.** 2010. Malhotra, B.D. Electrophoretically Deposited Polyaniline Nanotube Based Films for Cholesterol Detection. Electrophoresis 31 (22), 3754-3762.

Saxena, A., Mangal, H., Rai, P.K., Rawat, A.S., Kumar, V., **Datta, M.**, 2010. Adsorption of Diethylechlorophosphate on Metal Oxide Nanoparticles under Static Condition. Journal of Hazardous Material, 180 (1-3), 566-576.

Dhand, C., Das, M., Sumana, G., Srivastava, A.K., Pandey, M.K., Kim, C.G., **Datta, M.** Malhotra, B.D. 2010. Preparation, Characterization & Application of Polyaniline Nano sphere to Biosensing. Nanoscale, 2 (5), 747-754.

Singhal, R., **Datta, M.**, 2009. Studies on Development of Biodegradable poly HEMA/Cloisite Nanocomposite. Polymer Composite, 30 (7), 887-890.

Dhand, C., Solanki, Pratima R., Sood, K.N., **Datta, M.** 2009. Malhotra, B.D. Polyaniline Nanotube for Impedimetric Triglyceride Detection. Electrochemistry Communication, 11

(7), 1482-1486.

3. Other publications (Edited works, Book reviews, Festschrift volumes, etc.)

Book Published:

Application of Self Assembled Monolayer to Cholesterol Biosensor.

Application of Some Nanomaterial to Some Glucose Biosensor.

Conference Organization/ Presentations (in the last three years)

List against each head(If applicable)

1. Organization of a Conference - Nil

2. Participation as Paper/Poster Presenter

Paper Presentation:

Datta, M. 2015. Application of nanoclay and nanoclay composite. Refresher course in Chemistry, July 6. Department of Chemistry, University of Delhi, Delhi.

Datta, M. 2015. Importance of analytical chemistry in today's life. Invited Talk, June 8. Daulat Ram College, University of Delhi, Delhi.

Datta, M. 2015. Naturally occurring clay minerals and their composite as drug delivery vehicle. 5th Refresher course in basic science, May 11. Department of Chemistry, University of Delhi, Delhi.

Datta, M. 2015. Principle of FTIR. 5th Refresher course in basic science, May 11. Department of Chemistry, University of Delhi, Delhi.

Datta, M. 2015. Beauty of naturally occurring silicates. Invited Talk, March 3. Annual Chemistry Society Festival, Kirori Mal College, University of Delhi, Delhi.

Nadeem, U.; **Datta, M.**; 2015. Biopolymer composites of naturally occurring montmorillonite for the remediation of zinc ions from aqueous media. Paper Presentation at 2nd Indo-German Workshop on Supramolecular Chemistry held on 30th March, 2015 in University of Delhi, Delhi, India.

Jain, S.; **Datta, M.**; 2015. Clay polymer nanocomposite: oral extended drug delivery vehicle for an antidepressant drug. Paper Presented at 4th NSAS held on February 9-10th, 2015 at Jamia Hamdard, New Delhi, India.

Nadeem, U; **Datta, M.**; 2014. Remediation of chromium (VI) from aqueous media using fly ash loaded alginate beads. Paper presentation at 3rd Annual International Conference on Chemistry, Chemical Engineering and Chemical Process", held on January 26-27, 2015, at Hotel Fort Canning, Singapore.

Datta, M. 2014. Multifunctionality of natural clay and its nano-composite. Paper presentation at Second International Conference on Nanostructured Materials and Nanocomposite (ICNM-2014) held on December 19th – 21st 2014 in Mahatma Gandhi University, Kottayam, Kerala, India.

Kant, A.; **Datta, M.**; 2014. Pluronic F-68 modified montmorillonite as an Oral drug delivery vehicle for metronidazole. Paper presentation at Second International Conference on Nanostructured Materials and Nanocomposite (ICNM-2014) held on December 19th – 21st 2014 in Mahatma Gandhi University, Kottayam, Kerala, India.

Kumari, P.; **Datta, M.**; 2014. Nanoclay Composite Films as Seed Coating Material for the extended release of Plant Micronutrient and its Effect on the Plant. Paper presentation at Second International Conference on Nanostructured Materials and Nanocomposite (ICNM-2014) held on December 19th – 21st 2014 in Mahatma Gandhi University, Kottayam, Kerala, India.

Jain, S.; **Datta, M.**; 2014. Clay polymer Composite as an Oral Extended drug Delivery Vehicle. Paper Presentation at Fifty First Annual Convention Chemists held on December 9-12, 2014 in Kurukshetra University, Kurukshetra, Haryana, India. (**Dr. Upadhyayula V. Rao Memorial Award**).

Kumari N.; **Datta M.**; 2014. Adsorptive Removal of Cationic Dyes, Safranin O and Thioflavin T using Naturally Occurring Clay Mineral. Paper Presentation at Fifty First Annual Convention Chemists held on December 9-12, 2014 in Kurukshetra University, Kurukshetra, Haryana, India

Datta. M. 2014. FTIR spectrometry, Quality Education Program, May 6th - 8th 2014, Ranchi University, Jharkhand.

Datta. M. 2014. Clay and Clay – Polymer Nano Composites- II, Quality Education Program, May 6th- 8th 2014, Ranchi University, Jharkhand.

Datta. M. 2014. Nano Materials: Synthesised By Nature and Their Applications In Present Day, Materials and Environment, 3rd Refresher Course in Chemistry, October 11th 2014, Jamia Millia Islamia, Delhi.

Datta. M. 2014. Principle and Application of FT-IR Spectrometry in Material Characterization, Materials and Environment, 3rd Refresher Course in Chemistry, October 11th 2014, Jamia Millia Islamia, Delhi.

Datta. M.; 2014. Secrets of Naturally Occurring Gem Stones. Invited Talk, March 26th 2014, Shyam Lal College, University of Delhi, Delhi.

Nadeem. U; **Datta. M.**; 2014. Alginate-Maghemite composite, An effective adsorbent for the removal of Zinc from aqueous medium. International conference on Advanced materials and applications (ICAMA-2014) March 24th-26th, University of Allahabad

Datta. M.; 2014. Application of Clay and Clay - Polymer Composites. Innovations in Science and Technology for Inclusive Development. Invited talk, March 23rd 2014, ISCA Haridwar Chapter, Chaudhary Charan Sing University, Meerut.

Datta. M.; 2014. Clay and Clay Polymer Nano Composites: A Class of Novel Materials

For Oral Drug Delivery System. Invited talk at National Conference: March 14th 2014, M B Khalsa College, Indore.

Datta. M.; 2014. Clay and Clay Polymer Nano Composites: A Class of Novel Materials for Oral Drug Delivery System. Invited talk, March 09th 2014, Visva - Bharati University, Santiniketan, West Bengal.

Kumari, P; **Datta, M.;** 2014. Control release of micronutrient through biodegradable membrane coating of seeds. Paper presented at National Conference on Advances in Chemical & Environmental Sciences, February 27th -28th, Arya P.G. College, Panipat, India.

Jain, S. ;**Datta, M.;** 2014. Polymer Nanoparticles As An Oral Extended Drug Delivery Vehicle. Paper presented at International conference on Recent Advances in Polymer and Rubber Science and Technology, January 22nd-24th, Department of Polymer Science and Technology, University of Calcutta, West Bengal.

Datta, M.; 2014. Clay Polymer Nanocomposites as a Drug Delivery Vehicle for Extended Release of Drug. Invited talk at 101st Indian Science Congress, February 3-7th, University of Jammu, Jammu, India.

Seema. **Datta. M.;** 2013. Clay-Polymer Nanocomposites as an Oral Sustained Release Drug Delivery Vehicle for an Anti- hypertensive Drug. Paper presented at the 50th Annual Convention of Chemists held on December 04-07 2013 in Chandigarh, Punjab, India. **Best oral presentation (Professor G. Gopala Rao Young Scientist Award 2013).**

Datta. M. 2013. Applications of Clay Nano Composites .Presented at Refresher Course in Chemistry UGC Academic Staff College, November 20th Jamia Millia Islamia New Delhi.

Datta. M. 2013. Principle and Application of FT-IR Spectrometry .Presented at Refresher Course in Chemistry UGC Academic Staff College, November 20th Jamia Millia Islamia New Delhi.

Datta. M.; 2013. Clay Polymer Nanocomposites: A Novel Material for Oral Drug Delivery System Paper presented at Emerging Trends in Engineering & Sciences, November 9 Gurukul Kangri University , Haridwar, Uttarakhand.

Nadeem. U.; **Datta. M.;** 2013 .Adsorption of Zn (II) by biopolymer composite beads of fly ash. Paper Presented at International Conference on Advanced Polymeric Materials (ICAPM 2013) October 11-13 organized by Mahatma Gandhi University, Kottayam, Kerala India.

Nadeem. U.; **Datta. M.;** 2013. Alginate - algae composite, an effective adsorbent for the removal of zinc from aqueous medium. Paper Presented at 50th Annual Convention of Chemists held on December 04-07 in Chandigarh, Punjab, India.

Kumari,N.; **Datta, M.;** 2013. Naturally Occurring Clay Minerals As An Adsorbent For The Removal Of Safranin O Dye From Aqueous Solution. Paper presented at National Conference On Emerging Trends In Engineering & Sciences (Etes-2013) on November 9-10, Gurukul Kangri University, Haridwar, India.

Datta, M. 2012. Principle and Application of FTIR- Spectrometry, Recent Trends in Chemical Science at Department of Chemistry, University of Delhi, December 26, 2012 – January 15, 2013.

Kant, A. ;**Datta, M.**; 2013. Adsorption of Victoria Blue dye from aqueous solution by using low cost adsorbent”. Paper presented at National Symposium on Chemistry and Environment(NSCE - 2013), March15-16, Banaras Hindu University, Varanasi, India.

Jain, S.; **Datta, M.**; 2012. pH Metric Titration: A Green Approach. Paper Presented at International Conferences on Green Technologies for Environmental Rehabilitation. Faculty of Engineering & Technology, Feb. 11-13, 2012. Gurukul Kangri University, Haridwar. Uttrakhand, India.

Datta, M. 2012. Clay polymer nanocomposites: A novel material for oral sustained drug delivery system. Paper Presented at 49th Annual Convention of Chemists, December 13 at National Institute of Technical Teachers' Training and Research Bhopal, (M.P.)

Datta, M. 2012. Clay polymer nanocomposites: A novel material for oral sustained drug delivery system Presented on October 12 Dr. Harisingh Gour University, Sagar (M.P).

Datta, M. 2012. Oral drug delivery: Importance of sustained release presented at Refresher course in interdisciplinary basic sciences at UGC academic staff college, May 15, Jamia Millia Islamia, New Delhi

Datta, M. 2012. Principle and application of FTIR- Spectrometry. Presented at National workshop, Advance Analytical Techniques in Research & Development, December 20 Organized by Amity Institute of Applied Sciences, Amity University, Noida (U.P.)

Datta, M. 2012. Recycling and reuse of materials, Rotary Club of Delhi Uptown, April 18 Sunder Lal Jain Hospital at Ashok Vihar, Phase III, Delhi.

Datta, M. 2012. Applications of clay and nanoclay composites presented at High energy materials research laboratory, June 2012 at DRDO, Ministry of Defence, Pune.

Anjum A. ; **Datta M.**; 2011. Adsorptive removal of arsenic from aqueous media using modified montmorillonite. Paper presented at the International conference on green chemistry, Jaipur, December 7-9th, India

Jain,S.; **Datta, M.**; 2011. Electrochemical Method for Micro-Titration: A Green Approach. Paper Presented at the International Symposium cum Workshop on Electrochemistry, Goa, Dec. 7-10, 2011.

Seema; **Datta, M.**; 2011. Clay Polymer Nanocomposite as Drug-Delivery System for Antihypertensive Drug. Paper Presented at the Conference of Nanomaterials & Nanotechnology, Delhi, Dec. 18-21, India.

Anjum, A.; **Datta, M.**; 2011. Detection, Removal & Estimation of As & Sb from ppm to ppb level from Aqueous Media. Paper Presented at the National Conference of Recent Advanced in Material & Technology, NCRAMT, Haldia, 24-26, June, India.

Anjum, A., **Datta, M.**, 2011. Sorption Kinetics Mechanism for Arsenite Adsorption on Clay/Organoclay. Paper Presented at the Latest Advancement in Sciences, Engineering, Research, LASER, Bhatinda, 12-13, May, India.

Seema; **Datta, M.**; 2010. Clay Nanocomposite as an Oral Drug Delivery System for Anticancer Drug. Paper Presented at the International conference on Nanomaterial & Nanotechnology, NANO 2010, 13-16 Dec. Tamilnadu, India.

Mangal H; **Datta, M.**; 2010. Silica Nanoparticles with & without reactive Impregnates for Removal of Nitrobenzene. Paper Presented at the International Conference on Nanomaterial & Nanotechnology, NANO 2010, 13-16, Dec. Tamilnadu, India.

Seema, L., Singhal, R., **Datta, M.**, 2009. Nanoclay as Drug Delivery System. Paper Presented at the Golden Jubilee Celebration Seminar on Analytical Sciences in Energy & Environment at Indian Institute of Petroleum (IIP), Nov. 19-20, Dehradun, India.

Kaur, M., **Datta, M.** 2009. Clay Based Nanocomposite as Multifunctional Colorant. Paper Presented at the International Conference Cum Workshop on Nanosciences and Nanotechnology at Ansal Institute of Technology (AIT), October, 12-16, Gurgaon, India.

Datta, M., 2009. A Novel Methodology for the Total Conversion of Fly Ash into Value Added products: Zeolite. Paper Presented at International Conference on Recycling & Reuse of Materials (ICRM 2009), Dec. 19, Kottayam, Kerala, India.

Anjum, A., Seth, C.K., **Datta, M.** 2009. Application of Modified Clay for Detection & Estimation of As. Paper Presented at the National Symposium on Electrochemical Science & Technology (NSEST-2009), July, 17-18, Bengaluru, India.

Datta, M. 2009. Hetreopolyacid Acid Intercalated Bentonite – A Green Reusable Catalyst. Paper Presented at the National Seminar on Emerging Trends & Advanced in Chemical Research, Feb. 9, Allahabad, India.

Poster Presentation

Jain, S.; **Datta, M.**; 2015. Biopolymer composite microsphere as a drug delivery for oral extended release of an anti-depressant drug. Paper Presentation at 2nd Indo-German Workshop on Supramolecular Chemistry held on 30th March, 2015 in University of Delhi, Delhi, India.

Nadeem, U.; **Datta, M.**; 2015. Iron-oxide loaded alginate beads for remediation of Zinc (II) ions from aqueous medium. Paper Presented at 4th NSAS held on February 9-10th, 2015 at Jamia Hamdard, New Delhi, India.

Kant, A.; **Datta, M.**; 2015. Clay as a drug delivery vehicle for oral extended release of

Metronidazole. Paper Presented at 4th National Symposium on Recent advances in Analytical Sciences and Applications (NSAS), on February 9-10, 2015, at Jamia Hamdard, New Delhi, India.

Seema; **Datta, M.** 2014. Montmorillonite-Polymer Nanocomposites: Synthesis, Characterization and In-Vitro drug Release Studies. Paper presented at 20th ISCBC: International Conference on Chemistry and Medicinal Plants in Translational Medicine for Healthcare, March 1st - 4th organized by Department of Chemistry, University of Delhi, India.

Seema; **Datta, M.** 2014. Montmorillonite-Polymer Nanocomposites: Synthesis, Characterization and In-Vitro drug Release Studies. Paper presented at 20th ISCBC: International Conference on Chemistry and Medicinal Plants in Translational Medicine for Healthcare, March 1st- 4th organized by Department of Chemistry, University of Delhi, India.

Nadeem. U.; **Datta, M.** 2013. Adsorption Studies of Cr(VI) On Biopolymer Composite Beads of Alginate-Fly Ash. Paper presented at Virtual Conference: Biomaterials held between November 19- 21 at 2:00pm - 6:00pm (GMT) | 3:00pm - 7:00pm (CET) | 9:00 am - 1:00 pm (EST).

Kumari.N.; **Datta, M.** 2013. Adsorption efficiencies of natural Clay minerals for Safranin O Dye . Paper Presented at International Conference on Advanced Polymeric Materials (ICAPM 2013) October 11th -13th, Mahatma Gandhi University, Kottayam, Kerela, India.

Jain, S., Seema, Kaur, M., Singhal, R.;**Datta, M.** 2013. Clay – Polymer Nanocomposites: A Novel Material For Oral Extended Drug Delivery System. Paper presented at Emerging trend in development of drugs and devices (ETDDD-2013) organized by University of Delhi, NASI (Allahabad), INSA (Delhi) and IAS (Bangluru), January 21-23, 2013 Delhi, India.

Seema; **Datta, M.** 2012. Clay Polymer Nanocomposites as a Carrier for Oral Controlled Release of an Anticancer Drug. Paper presented at International Conference on Nanoscience + Technology 2012 (ICN+T2012) Organized by European Physical Society, on 23- 27 July 2012, Paris, France.

Panmei, G., **Datta, M.** 2012. Synthesis of Hydroxy sodalite from Fly ash. Paper presented at International Conference on Green Technologies for Environmental Rehabilitation. Faculty of Engineering & Technology, Gurukul Kangri University, February 11-13, Haridwar, Uttrakhand India.

Kant, A., **Datta, M.**, 2012. Removal of Victoria Blue B from Aqueous Solution. Paper presented at International Conference on Green Technology for Environment Rehabilitation. Faculty of Engineering and Technology, February 11-13, Gurukul Kangri University, Haridwar, Uttrakhand, India.

Seema, L., **Datta, M.**, 2012. Clay Polymer Nanocomposite as Controlled Release Carrier of Anticancer Drug. Paper presented at International Conference on Green Technologies for Environment Rehabilitation. Faculty of Engineering and Technology, Gurukul Kangri University, February 11-13, Haridwar, Uttrakhand, India.

Singhal, R., **Datta, M.** 2011. Preparation and Characterization of Venlafaxine HCL-MMT-PLGA Nanocomposite. Paper presented at International Conference on Nanomaterial and Nanotechnology, December 18-21, Delhi, India.

Anjum, A., Seth, C.K., **Datta, M.** 2010. Adsorptive Detection and Removal of Arsenic from Water: Part per Million to Part per Billion Level. Paper Presented at the International Conference on Emerging Trends in Chemistry (ETIC)-2010, January 5-7, Pune, India.

Dhand, C., Sumanna, G., **Datta, M.**, Malhotra, B.D. 2009. Electrophoretically Deposited Polyaniline Film for Glucose Sensing. Paper Presented at the India-Japan Workshop on Biomolecular Electronic & Organic Nanotechnology for Environment Preservation (IJWBME-2009) at National Physical Laboratory, December 17-20, New Delhi, India.

Seema, L., Singhal, R., **Datta, M.** 2009. Nanoclay as Drug Delivery System. Paper Presented at International Conference cum Workshop on Nanoscience & Nanotechnology at Ansal Institute of Technology (AIT), October 12-16, Gurgaon, India.

Mangal, H., Saxena, A., Rai, P.K., Rawat, A.S., Kumar, V.; **Datta, M.** 2009. Fire Retardant Nanocomposite of Metal Oxide & Polyvinylchloride. Paper Presented at the International Conference cum workshop on Nanoscience & Nanotechnology at Ansal Institute of Technology (AIT), October 12-16, Gurgaon, India.

Dhand, C., Das, M., Sumana, G., Pandey, M.K., **Datta, M.**, Malhotra, B.D. 2009. Camphor Sulphonic Acid Doped Polyaniline Nanotube for Application to Cholesterol Biosensor. Paper presented at the Second International conference on Frontiers in Nanoscience and Technology, Nano 2009, Cochin University of Science and Technology, Jan. 4-6, Cochin, India.

Research Projects (Major Grants/Research Collaboration)

Name of Project: Nanoclay Composite as Oral Sustained Release Drug Delivery System: Challenges and Prospective.

Position in Project: Principle Investigator

Period: Three Years

Funding Agency: University Grant Commission (UGC)

Grant: 09.45 Lacs

Name of Projects: Application of Clay Polymer Nanocomposite as Oral Controlled Release Drug Delivery System.

Position in Projects: Principle Investigator

Period: one Year

Funding Agency: University of Delhi

Grant: 02.50 Lacs.

Name of Project: Synthesis and characterization of some natural materials coated on naturally occurring matrix and their application in environment pollution control.

Position in Project: Principle Investigator

Period: Five Years

Funding Agency: University Grant Commission (UGC)

Grant: 26.02 Lacs

Name of Project: Clay Polymer Nanocomposite: A New Approach of Oral Administration for Extended Release of Drug.

Position in Project: Principle Investigator

Period: Five Years

Funding Agency: University Grant Commission (UGC)

Grant: 36.36 Lacs (approx)

Association With Professional Bodies

1. Committees and Boards

Member: University Court

Member: Departmental Research Committee

Member: Committee Courses for post- graduate including honors course.

Convener: Departmental Library Committee (from July 2011 to July 2013)

Member: Governing body of Bhaskaracharya College of Applied Sciences

2. Memberships

Life Member, Indian Society of Analytical Sciences.

Life member, Indian Chemical Society

Other Activities

Brief description

Professor Monika Datta joined the Department of Chemistry in 1987 and has been actively involved in teaching and research since then. She is at present actively involved in research in the area of extended drug delivery systems based on clay polymer nanocomposites and clay supported nanocolorants for polymers. She has also devised the methodology for the application of fly ash, clay composites/nanocomposites and biocomposites for the removal and recovery of certain toxic metals and dyes from waste water. Her area of interest also includes the development of micronutrient encapsulated clay based seed coating material for their controlled release in soil. She has also been involved in the synthesis and application of pillared clays as solid acid catalysts for solvent free chemical synthesis.

Professor Datta has post - doctoral research experience from a number of institutes abroad. At the University of Strathclyde, Glasgow, U.K., she worked in the area of Resonance Raman and surface enhanced Raman spectroscopic studies involving dyes and pigments. At the University of Alberta, Edmonton, Canada, she developed a new technique for the in-situ characterization of electrode/electrolyte interface in aqueous and non-aqueous media using FTIR and laser Raman spectrometry. At the corporate research laboratory, Monsanto Company at St. Louis, U.S.A., her area of research was in-situ FTIR and laser Raman studies of electrode electrolyte interfaces on commercially important electrodes. At the University of California Santa Barbara U.S.A., she worked on surface characterization of electrode surfaces using AES, LEED, TDMS and FTIR

techniques under ultra-high vacuum (UHV) condition.

She was a Fellow of the Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru (1992- 1996). She was actively involved in research and teaching at the University Department of Chemical Technology (UDCT), Mumbai. During this period, she developed a new technique for in-situ characterization of clay and clay based catalysts, structural aspects of layered compounds such as vanadyl phosphates and oxidative stability of C₆₀ fullerene and higher fullerenes.

She has 28 years of post-graduate teaching experience in Inorganic and Analytical Chemistry and has several publications in international and peer reviewed journals. She has supervised the thesis of thirteen Ph.D students and seven M.Phil students so far. Professor Datta has participated and delivered invited lectures in various national and international symposia/conferences and has chaired various sessions.