Prof. MEENAKSHI SINGH

Professor in Chemistry, MMV, Banaras Hindu University, Varanasi-221005.

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h-Index : 10

Google Scholar Profile: https://scholar.google.co.in/citations?user

ResearchGate Profile: https://www.researchgate.net/profile/Meenakshi_Singh15

FIELD OF RESEARCH:

- Analytical Chemistry
- Molecularly imprinted polymers
- Sensors
- Electroanalytical chemistry
- Polymer Chemistry
- Gels- Hydrogels, Organogels

INSTRUMENTS/FACILITIES AVAILABLE:

Established an "**Analytical Research Laboratory**" in Department of Chemistry, MMV with the following instruments/facilities funded from **DST, UGC, CSIR, BHU**

- Electrochemical work station with impedance analyzer and electrochemical quartz crystal microbalance (EQCM) (AUTOLAB)
- Electrochemical work station with electrochemical quartz crystal microbalance (EQCM) Model CHI 410 B (CH Instruments, USA)
- Contact angle goniometer (Holmarc Opto Mechatronics Pvt Ltd.)
- Spin coater (Holmarc Opto Mechatronics Pvt Ltd.)
- Basic synthesis and characterization facilities

SPONSERED RESEARCH PROJECTS

Total fund mobilized: approx Rs 1,04,00,000/-

1. **DST, New Delhi**- Design of diagnostic tools to monitor certain diseases *via* molecular imprinting mimicking biorecognition [EMR/2016/005245]. **Rs 43,87,810/- 2017-2020**
2. **CSIR, New Delhi**- Design, Synthesis, Characterization, Optimization and Evaluation of Water-Compatible Molecularly Imprinted Polymeric (MIP) sensors for Selective Protein Capture by Epitope Imprinting **Rs 11,64,135/- 2013-2016**
3. **UGC, New Delhi**- Synthesis of novel zwitterionic polymers and study of their optoelectronic, electrochemical characteristics & applications for sensor development **Rs 8,05,000/- 2012-2015**
4. **DST, New Delhi**-Development of sodium ion conducting zwitterionic polymer electrolyte for electrochemical application [SR/S2/CMP0065/2007] **(as co-investigator) Rs 25 lakhs 2008-2012**
5. **DST, New Delhi**-Development of water-compatible molecularly imprinted polymer-based sensors for clinical analysis [SR/SI/IC-18/2006] **(as co-investigator) Rs 15 lakhs 2007-2010**

PROFESSIONAL MEMBERSHIP:

1. Life Member, **Indian Society of Analytical Scientists** (LM-**2007/15**).
2. Life Member, **Indian society for Electroanalytical Chemistry** (LM-199).
3. Life Member, **Chemical research society of India (CRSI)** (LM-1335).
4. Member, Editorial Board, ISST Journal of Applied Chemistry, Ghaziabad, India.

Ph. D. THESIS SUPERVISED: 10

(Ph.D. Awarded: 6, submitted: 1, currently Supervising: 3)

Editor/Reviewer of Journals:

1. Editor, ISST Journal of Applied Chemistry, Ghaziabad, India.
2. Reviewer, Biosensors and Bioelectronics, Elsevier
3. Reviewer, J. Mater.Chem. B, RSC Publication.
4. Reviewer, J. Hazardous Materials, Elsevier Publication.
5. Reviewer, International Journal of Environmental Analytical Chemistry.
6. Reviewer, Journal of Molecular Recognition, Wiley.
7. Reviewer, Macromolecular Symposia, Wiley Publication.
8. Reviewer, Nanoscale, Royal Soc of Chem.
9. Reviewer, Polymer Bulletin, Springer Publication.
10. Reviewer, Journal of Applied Polymer Science, Wiley Publication.
11. Reviewer, Spectrochim Acta A, Elsevier Publication.
12. Reviewer, Journal of Fluorescence, Springer Publication.
13. Reviewer, Material Science and Engineering C, Elsevier Publication.

Citations in: Chem Comm, Biosens & Bioelectron, Chem-A Europ J, Adv mater, Polymer, J Polym Sci: Polym Chem, European Polymer Journal, RSC Advances, Anal Chim Acta, Chem Rev, Colloids & Surf, Talanta, Anal Methods, ACS Appl Mater and Interfaces, Biotech Advances, Food Chem, J Molecula Recogn, Sens & Actuat B, Electrochim Acta, J Chromat A, J Appl Polym Sc, Mater Sc & Engg C, PloS One, Inorganic Chem Communications, Macromolecules, Prog Polym Sci.

RESEARCH PUBLICATIONS

I. Patents

- Preparation of molecularly imprinted polymer-quartz crystal microbalance (MIP-QCM) device for detection of *Neisseria meningitidis* bacteria Neha Gupta, Kavita Shah, Rajaniti Prasad and Meenakshi Singh [Application No. 201711016119 filed on 8.05.2017]

I. Research Papers:

2018

1. Synthesis and characterization of Antipyrine imprinted polymers and their application for sustained release, Archana Kushwaha, Smita Singh, Neha Gupta, Ambareesh Kumar Singh and Meenakshi Singh *Polymer Bulletin*, **2018** In Press.

2. Epitope imprinting of iron binding protein of Neisseria meningitidis bacteria through multifunctional monomer imprinting approach, Neha Gupta, Roop Shikha Singh, Kavita Shah, Rajniti Prasad and Meenakshi Singh *Journal of Molecular Recognition*, **2018**.

3. Immunoinformatic approaches in epitope prediction for vaccine designing against viral infections. Richa Raghuwanshi, **Meenakshi Singh,** Vandana Shukla, *Virology and Immunology Journal*, 2 (2), 000142, **2018**.

2017

4. Electrochemical and piezoelectric monitoring of taurine *via* electropolymerized molecularly imprinted films, Ambareesh Kumar Singh and Meenakshi Singh, *Journal of Molecular Recognition*, DOI:10.1002/jmr.2652, **2017**.

5. Invited article: Epitope imprinting approach to monitor diseases, Meenakshi Singh, Neha Gupta and Richa Raghuwanshi, *Journla of Molecular and Genetic Medicine*, 11, 1-6, **2017**.

6. Antibacterial activity, thermal stability and ab-initio study of copolymer containing sulfobetaine and carboxybetaine groups, Nazia Tarannum, **Meenakshi Singh**, Anil K Yadav, *Materials Research Express*, **2017** (In Press). DOI: 10.1088/2053-1591/aa8a18

2016

7. An epitope-imprinted piezoelectric diagnostic tool for *Neisseria meningitides* detection, Neha Gupta, Kavita Shah and Meenakshi Singh, *Journal of Molecular Recognition* 29, 572-579, **2016,** DOI 10.1002/jmr.2557 [Impact factor: 2.09].

8. Molecularly imprinted Au-nanoparticle composite-functionalized EQCM sensor for L-serine, Ambareesh Kumar Singh and **Meenakshi Singh**, *J Electroanal Chem* 780, 169-175, **2016**. [Impact factor: 2.82].

9. Designing L-serine targeted molecularly imprinted polymer *via* theoretical investigation, Ambareesh Kumar Singh and **Meenakshi Singh**, *Journal of Theoretical and Computational Chemistry.*15, 1650041-1650054, **2016**. [Impact Factor: **0.64]**

10. A biopolymeric nano-receptor for sensitive and selective recognition of 'albendazole', Juhi Srivastava and **Meenakshi Singh**, *Analytical Methods* 8, 1026-1033, **2016.** [Impact Factor: **1.82]**

11. Mesalmine targeted water-compatible molecularly polymer-silver nanoparticles with surface-enhanced Raman spectroscopic (SERS) and voltammetric detection, Ambareesh Kumar Singh, Nazia Tarannum, R.K.Singh and **Meenakshi Singh**, *Sensor Letters* 14, 76-83, **2016.** [Impact

factor: **1.59**]

12. A highly sensitive and selective piezoelectric molecularly imprinted sensor for RGD peptides, Neha Gupta, Archana Kushwaha and **Meenakshi Singh**, *Sensor Letters*, 14, 616-622, **2016.** [Impact factor: **1.59**]

2015

13. QCM sensing of melphalan *via* electropolymerized molecularly imprinted polythiophene films, Ambareesh Kumar Singh and **Meenakshi Singh**, *Biosensors and Bioelectronics* 74, 711-717, **2015.** [Citation: 1, Impact factor: **7.41**]

2014

14. Biopolymeric receptor for peptide recognition by molecular imprinting approach-Synthesis, characterization and application, Lav Kumar Singh, Monika Singh and **Meenakshi Singh**, *Material Science and Engineering C*, 45, 383-394, **2014** [Citation: 3, Impact Factor: **3.42**]
15. Chemical Characterisation of Atmospheric Aerosol by SEM-EDX Technique for Eastern Indo-Gangetic Plain Location, Varanasi, India, A.K. Singh, B. P. Singh, **Meenakshi Singh**, A. Srivastava, S. Kumar, S. Tiwari, D. S. Bisht, Suresh Tiwari and M. K. Srivastava, *International journal of advances in earth sciences* 3(2), 41-51,**2014**
16. Selective recognition of fenbufen by surface-imprinted silica with iniferter technique, **Meenakshi Singh,** Nazia Tarannum and Abhishek Kumar, *Journal of Porous Materials* 21(5), 677-684, **2014.** [Citation: 2, Impact factor: 1.53]
17. Facile eco-friendly novel synthesis of 3,4,6,7-tetrahydro-3,3,6,6-tetramethyl-2H xanthenes 1,8(5H,9H) dione, Nazia Tarannum, Ranjan K. Singh, and **Meenakshi Singh**, *Crystallography Reports***,** 59 (7),982-987 **2014.** [Impact factor: 0.52]

2013

18. Selective recognition and detection of aspartame by surface imprinted polymer on silica surface in aqueous solution, **Meenakshi Singh,** Abhishek Kumar and Nazia Tarannum; *Analytical and Bioanalytical Chemistry*, 405,4245-4252, **2013.** [Citation: 11, Impact factor: **3.77**]
19. Advances in synthesis and applications of sulfo and carbo analogues of polybetaines: A review, Nazia Tarannum and **Meenakshi Singh,** *Reviews in Advanced Sciences and Engineering,* 2(3), 90-111, **2013**. [Citation: 9, Impact factor: 3.64]

2012

20. Selective Recognition and Detection of Zwitterionic Drug 'Baclofen' By Surface Imprinted Polymer on Silica Surface in Aqueous Solution, Nazia Tarannum and **Meenakshi Singh**, *Analytical Methods,* 4, 3019-3026, **2012** [Citation: 10, Impact factor : 1.85].
21. Surface Photografting of Novel Zwitterionic Copolymers of Maleimide and Diamines via Michael-Type Addition on Silica, Abhishek Kumar, Nazia Tarannum and **Meenakshi Singh,** *Material Sciences and Applications,* 3 (7) 467-477, **2012.** ISSN: 2153-117X [Citation: 3; Impact factor: 0.37].
22. Synthesis, characterization and photophysical behaviour of [2,5-Bis-{tris-(2-hydroxy-ethyl)-ammonium}-3,6-dichloro-cyclohexa-2,5-diene-1,4-diol]dichloride, Archana Kumari, Paresh K.Singh, Nazia Tarannum, J.Singh and **Meenakshi Singh,** *Nava-Gavesana,* 3(2), 57-64, **2012.** ISSN: 0976-9455.
23. Synthesis, characterization and structural analysis of poly[N-chloranil-1-(2-aminoethyl) piperazinium dichloride] Archana Kumari, Paresh K.Singh, Nazia Tarannum, J.Singh and **Meenakshi Singh,** *Nava-Gavesana,*3(1), 9-16, **2012**. ISSN: 0976-9455.

2011

24. Synthesis and application of L-aspartic acid imprinted polymer, Nazia Tarannum and **Meenakshi Singh**, *American Journal of Analytical Chemistry,* 2 (8), 909-918, **2011**. [Citation: 9; Impact factor: 0.37]
25. Synthesis and swelling characteristics of responsive carboxybetaine gel, Nazia Tarannum and **Meenakshi Singh**, *Journal of Applied Polymer Science,* 122, 241-248, **2011**. DOI 10.1002/app.34159 [Citation: 1, Impact factor:1.395]
26. Synthesis, characterization and photoluminescence of novel sulfobetaine polyelectrolytes, Nazia Tarannum, Hridyesh Mishra and **Meenakshi Singh,** *Journal of Fluorescence,* 21(1), 289-297, **2011** [Citation: 2, Impact factor:2.10]

2010

27. Synthesis and characterization of zwitterionic organogels based on Schiff base chemistry, Nazia Tarannum and **Meenakshi Singh**, *Journal of Applied Polymer Science,* 118 (5), 2821-2832, **2010**. [Citation: 11, Impact factor:1.39]

2009

28. Ultratrace Analysis of Dopamine using a combination of imprinted polymer-brush-coated SPME and imprinted polymer sensor techniques. Bhim Bali Prasad, Khushaboo Tiwari, **Meenakshi Singh**, Piyush S. Sharma, Amit K. Patel, Shrinkhala Srivastava, *Chromatographia*, 69 (9-10), 949-957, **2009**. [Citation: 14; Impact factor:1.3]
29. Zwitterionic molecularly imprinted polymer-based solid-phase micro-extraction coupled with molecularly imprinted polymer sensor for ultra-trace sensing of L-histidine. B.B. Prasad, K. Tiwari, **Meenakshi Singh**, P.S. Sharma, A.K. Patel, S. Srivastava, *Journal of Separation Sciences* 32(7),1096-1105, **2009**. [Citation: 12; Impact factor: 2.73]
30. Ultratrace analysis of uracil and 5-fluorouracil by molecularly imprinted polymer brushes grafted to silylated solid-phase microextraction fiber in combination with complementary molecularly imprinted polymer-based sensor, B.B. Prasad, K. Tiwari, **Meenakshi Singh**, P.S. Sharma, A.K. Patel, S. Srivastava, *Biomedical Chromatography*, 499, **2009**. [Citation:14; Impact factor:1.96] ISSN: 1099-0801

2008

31. Synthesis and swelling characteristics of zwitterionic hydrogel, **Meenakshi Singh**, Paresh Kumar Singh, Vinay Kumar Singh, *e-polymers,* 163, 1-8, 2008. [Impact factor: 0.6].
32. Molecularly imprinted polymer-based solid-phase microextraction fiber coupled with molecularly imprinted polymer-based sensor for ultratrace analysis of ascorbic acid, B.B.Prasad, K.Tiwari, **Meenakshi Singh**, P.S.Sharma, A.K.Patel, S.Srivastava, *Journal of Chromatography A,* 1198-1199, 59-66, **2008**. [Citation: **64**; Impact factor: **4.53**].

2007

33. Review Article: Zwitterionic Polyelectrolytes: A Review, Paresh Kumar Singh, Vinay Kumar Singh, **Meenakshi Singh**, *e-polymers,* 30, **2007**. [**Citation: 38**, Impact factor:0.6]

2002

34. Silica Gel - Immobilized Di[N - Chloranil Piperazinium – bis – Sulfosalicylate] : Preparation, Characterization and Performance for Chromatographic Separation of Heavy Metals, **Meenakshi Singh** and K.V. Srinivasan, *Chromatographia*, 56(11/12), 717-722, **2002**. [Citation:2; Impact factor:1.3]

2000

35. Solvation of N-based Cationic Polylectrolytes: Viscosity Studies in Propylene Carbonate and Sulfolane, **Meenakshi Singh**, A. Kumar and B.B. Prasad, *Ind. J. Chem. (Sec A)*, 39 A, 489, **2000**. Impact factor:0.89]
36. Solvation of Certain N-Based Polycationic Electrolytes: Viscosity Measurements in Dimethylformamide and Dimethylsulfoxide, **Meenakshi Singh**, A. Kumar, S. Easo and B.B. Prasad, *J. Mol. Liquids,* 81, 147, **1999.** [Impact factor:1.58]
37. Electrolytic Conductivity of Crystal Violet-Based Quaternary Ammonium Polyelectrolytes in N,N-Dimethylformamide and Dimethylsulfoxide, **Meenakshi Singh** and B.B. Prasad, *Ind. J. Chem. (Sec A)*, 36 A, 565, **1997.** [Citation:2, Impact factor:0.89]
38. Solvation of N-Chloranil and N-Xylylene Tagged Cationic Polyelectrolytes: Viscosity Measurements in Dimethylformamide and Diemethylsulfoxide, **Meenakshi Singh**, A.Kumar, S. Easo and B. B. Prasad, *Can. J. Chem*., 75, **1997.** [Citation:2, Impact factor: 1.24]
39. Electrolytic Conductivity of the N-Chloranil and N-Xylylene-Based Polyelectrolytes in Dimethylformamide and Dimethylsulfoxide, **Meenakshi Singh**, and B.B. Prasad, *J. Chem. Engg. Data*, 41 (3), 409, **1996**. [Citation:4 Impact factor:2.1]
40. Non-aqueous Solvation Behavior of Some Nitrogen-Containing Polycationic Electrolytes: Partial Molar Volumes in Propylene Carbonate and Sulpholane, B.B. Prasad, A. Kumar, S. Easo, and **Meenakshi Singh**, *Polymer*, 37 (20), 281-286, **1996**. [Citation:3; Impact factor:3.6]
41. N-Chloranil and N-xylene Containing Polycations: Preparation and Solvation Characteristics, B.B. Prasad, **Meenakshi Singh** and S. Singh, *Polymer Journal*, 27, 49, **1995**. [Citation:6; Impact factor:1.4]
42. Studies of the Conductance Behavior of Crystal Violet-Based Quaternary Ammonium Polyelectrolytes in Propylene Carbonate and Sulfolance, B. B. Prasad, A. Kumar, **Meenakshi Singh** and Sandhya Singh, *J. Chem. Engg. Data*, 40(1), 79-82, **1995.** [Citation:3; Impact factor:2.1]

III Papers in Proceedings of Conferences:

43. Chitosan-Based Hydrogels - Synthesis, Characterization And Swelling Behaviour, Lav Kumar Singh, Abhishek Kumar, Nazia Tarannum and **Meenakshi Singh**, Proceedings of *4th International Conference on Electroactive Polymers: materials & Devices,* during 4-9 November, 2012 at B.H.U., Varanasi, India ISBN: 9788-1842-49606
44. Characterisation of atmospheric aerosol by SEM-EDX analysis at Varanasi, A.K. Singh, B. P. Singh, **Meenakshi Singh**, A. Srivastava, S. Kumar, S. Tiwari, D. S. Bisht, Suresh Tiwari and M. K. Srivastava; IASTA BULLETIN, 21, 272-275, **2014, ISSN:** 09714510.
45. Electrical transport studies of a novel zwitterionic polymer electrolyte. Tuhina Tiwari, Nazia Tarannum, **Meenakshi Singh**, Neelam Srivastava, Electroactive Polymers: Materials & Devices, Vol.4; Eds. S.A.Hashmi, Amita Chandra, R.K.Singh and A. Chandra Macmillan Publishers India Ltd., New Delhi, **2011**. (Proceedings of *4th International Conference on Electroactive Polymers: materials & Devices,* during 21-26 November, 2010 at Surajkund, India) ISBN: 978-935-059-073-7.

IV. Chapters in Books:

46. Polyzwitterions, **Meenakshi Singh** and Nazia Tarannum; Engineering of Biomaterials for drug delivery systems. 1st Edition. Beyond Polyethylene Glycol, Ed: Anilkumar Parambath; Woodhead Publishing 2018 (Elsevier) 2018, 17-66, ISBN: 9780081017500

47. Molecularly imprinted polymers for pharmaceutical applications, Ambareesh Kumar Singh, Neha Gupta, Juhi Srivastava and **Meenakshi Singh**, in Handbook of Polymers for pharmaceutical technologies, Vol.4: Bioactive and compatible synthetic/ hybrid polymers, Ed: V.K.Thakur and Manju Kumari Thakur; Wiley-Scrivener Publishing, USA, 2016, 17-66, ISBN: 978-1-119-04146-7

48. Piezoelectric monitoring of certain disease biomarkers, **Meenakshi Singh** and Ambareesh Kumar Singh, Advances in Multifunctional Materials, Ed: S.K.Srivastava, Ideal Book Publishers and Distributors, New Delhi, 2016, 180- 199, ISBN: 978-81-929869-4-4

49. Graphene based polymer composites and their receptor specific tailored molecular imprinted approach, Nazia Tarannum and **Meenakshi Singh**, Ed: Advances in Multifunctional Materials, Ed: S.K.Srivastava, Ideal Book Publishers and Distributors, New Delhi, 2016, 59- 87, ISBN: 978-81-929869-4-4

V. Book

50. An applied approach to carbo and sulfo analogues of Polybetaine system, Nazia Tarannum and **Meenakshi Singh**, Lambert Academic Publishing Germany, ISBN 978-3-659-31797-2

IV Papers in Conferences:

51. Variability of aerosol optical depth and its effect on climatic parameter over Varanasi during 2011-2016, Conference: COSPAR-2018 At: Pasadena, USA,
52. Voltammetric determination of antihelmintic drug albendazole by electrochemical – MIP sensor based on molecular imprinting, Juhi Srivastava and **Meenakshi Singh**, 7-9 April 2016 at International Conference on Recent Advances in Analytical Sciences, Department of Chemistry, IIT, B.H.U., Varanasi
53. An epitope imprinted piezoelectric sensor, Neha Gupta, Archana Kushwaha, Kavita Shah and **Meenakshi Singh**, 7-9 April 2016 at International Conference on Recent Advances in Analytical Sciences, Department of Chemistry, IIT, B.H.U., Varanasi
54. Fabrication of water-compatible molecularly imprinted polymer for a dipeptide, Archana Kushwaha, Neha Gupta, Lav K Singh and **Meenakshi Singh**, 29-30 March 2015 at Harish Chandra P.G. College, Varanasi

55. Molecularly Imprinted Polymer-Silver Nanoparticle Composite-A Boost to Sensitivity, Ambareesh k. Singh, Juhi Srivastava and **Meenakshi Singh**, 29-30 March 2015 at Harish Chandra P.G. College, Varanasi

56. Electrochemical-MIP sensor for Albendazole based on chitosan nanoparticles, Juhi Srivastava, Ambareesh K Singh and **Meenakshi Singh**, 7-9 August 2015 at Department of physics, BHU(IC-CAST)
57. Synthesis, Characterization and application of a piezoelectric sensor for tripeptide, Neha Gupta, Archana Kushwaha and **Meenakshi Singh**, 7-9 August 2015 at Department of physics, BHU(IC-CAST)
58. Selective Recognition of Antipyrine by surface imprinted silica with iniferter technique Archana Kushwaha and **Meenakshi Singh**, 5-7 february 2016 at Punjab University(CRSI)
59. Recognition of *Neisseria meningitidis* bacteria protein using epitope-mediated sensor Neha Gupta, Kavita Shah and **Meenakshi Singh**, 5-7 february 2016 at Punjab University(CRSI)
60. An analytical tool for determination of antihelmintic drug Albendazole based on molecularly imprinted polymers, Juhi Srivastava and **Meenakshi Singh**, 5-7 february 2016 at Punjab University (CRSI)
61. Molecularly imprinted EQCM sensor for L-serine based on functionalized gold-nanoparticle, Ambareesh Kumar Singh and **Meenakshi Singh**, 25-26 February 2016 UPRTOU Allahabad
62. Fabrication of Aspartame imprinted chitosan nanoparticle-graphene composite by electrodeposition method , Juhi Srivastava, Archana Kushwaha and **Meenakshi Singh**, 25-26 February 2016 UPRTOU Allahabad
63. Mesalmine targeted water-compatible molecularly imprinted polymer-silver nanoparticles, Ambareesh Kumar Singh, **Meenakshi Singh**, National symposium on Nanomaterials and sustainable synthetic strategies, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India, Mar 21-22, 2015.
64. FTIR, FT-Raman and theoretical simulations of 5-Amino salicylic acid, Ambareesh Kumar Singh, **Meenakshi Singh**, National symposium on organic synthesis and advanced materials, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India, Mar 1-2, 2014.
65. Fabrication of water-compatible 'Mesalmine' imprinted polymeric sensor, Ambareesh Kumar Singh, **Meenakshi Singh**, International Conference on Recent Advances in Analytical Sciences Department of Chemistry, IIT, B.H.U., March 27-29, 2014.
66. A study of porosity of surface-grafted fenbufen-imprinted polymeric sensor, **Meenakshi Singh**, Abhishek Kumar and Nazia Tarannum, International Conference On Recent Advances In Analytical Sciences, Department of Chemistry, IIT, B.H.U., March 27-29, 2014.
67. 15th CRSI National symposium in Chemistry, Synthesis and characterization of surface-grafted fenbufen-imprinted polymer, **Meenakshi Singh**, Abhishek Kumar and Nazia Tarannum, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India, Feb 1-3, 2013.
68. Chitosan-based hydrogels –synthesis, characterization and swelling behavior, **Meenakshi Singh**, Lav Kumar Singh, Fifth International conference on electroactive polymers: Materials and devices, Department of Physics, B.H.U., Nov 04-09, 2012.
69. Computational investigation and synthesis of a zwitterionic imprinted material for selective recognition and detection of L-aspartic acid, Nazia Tarannum and **Meenakshi Singh** at Second International Symposium on Frontiers in Polymer Science (Elsevier) 29-31 May 2011, Centre de Congrès, Lyon, France.

70. Synthesis, characterization and photoluminescence study of sulfobetaine polyelectrolyte based on Schiff base chemistry, Nazia Tarannum and **Meenakshi Singh**, National symposium on emerging trends in chemical sciences, Department of Chemistry, B.H.U., Feb 19-20, 2011.
71. Dielectric Studies of A Synthesized Zwitterionic Polymer Electrolyte, Tuhina Tiwari, Nazia Taranum, **Meenakshi Singh**, Neelam Srivastava, National Conference on Recent Trends in Exotic materials 2010
72. Synthesis, characterization and swelling property of polycarboxybetaine gel, Nazia Tarannum and **Meenakshi Singh** at National Conference On Application of Material Science In The Service Of The Society, during 12-13 September, 2009 at C.M.P Degree College, University of Allahabad, Allahabad, India.
73. Grafting of zwitterionic polymer on silica surface via Michael addition, **Meenakshi Singh**, Abhishek Kumar, National seminar on advances in chemical sciences, Department of Chemistry, U.P.College, Varanasi, Sept' 8, 2012.
74. *Sulphobetaine and NaSCN: A New Zwitterionic Polymer Electrolyte System* Tuhina Tiwari, Nazia Tarannum, **Meenakshi Singh** and Neelam Srivastava in 8th National Conference on Solid State Ionics 2009, Dr S H G University, Sagar (MP) 7-9 Dec 2009.
75. Synthesis, Characterization and Photoluminescence study of Sulfobetaine Polyelectrolyte Based on Schiff base chemistry, Nazia Tarannum, Hirdyesh Mishra and **Meenakshi Singh**, National Symposium on Emerging Trends In Chemical Sciences, 19-20 Feb 2011, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India.
76. Synthesis, Thermal Stability and Antibacterial Activity of Novel Sulfobetaine Polymer, **Meenakshi Singh** and Nazia Tarannum, 13th CRSI National Symposium in Chemistry & 5th CRSI-RSC Symposium in Chemistry, 4-6 Feb 2011, National Institute for Science Education and Research & Kalinga Institute of Industrial Technology, Bhubaneswar, Orissa.
77. Molecularly imprinted material prepared by surface imprinting technique for trace analysis of 'aspartame', **Meenakshi Singh**, Abhishek Kumar, nazia Tarannum, National Conference on Experimental Tools for Material Science Research: State of Art, 3-4 Dec 2010, Department of Physics, MMV, B.H.U., Varanasi, India.
78. Synthesis and characterization of novel poly(iminosulfobetaine)s and poly(iminocarboxybetaine)s, **Meenakshi Singh** and Nazia Tarannum, Frontiers in Polymer Science, 7-9 June 2009, Mainz Convention Center, Mainz, Germany.
79. Synthesis and Swelling Behaviour of Responsive Hydrogel, **Meenakshi Singh**, National Symposium on Advances in Analytical Sciences and Applications, Department of Chemistry, H.P.University, Shimla, April 9-11,2007.
80. National Symposium on Current Trends in Chemistry, Department of Chemistry, B.H.U., March 24-25, 2007.
81. Dissipative quartz crystal microbalance technique under conductive environment, **Meenakshi Singh**, Erika Wikberg, Knut Irgum, Chemistry in the Development of Newer Materials, Department of Chemistry, B.H.U. February 23-24, 2004.
82. Preparation and solvation of certain N-chloranil and N-xylylene containing polyelectrolytes, **Meenakshi Singh** and B.B.Prasad, Indian Science Congress Association Conference, Jadavpur University, Jadavpur January 3-8,1995.
83. Solvation of certain N-chloranil and N-xylylene containing polyelectrolytes, **Meenakshi Singh** and B.B.Prasad, Indian Chemical Society Conference, of Chemistry, B.H.U., Dec'1994

CONFERENCES/SEMINARS/WORKSHOP ATTENDED:

1. Epitope imprinted polymers for diagnostics, 5th International summit on medical biology and bioengineering, at Chicago, Illinois, USA
2. Mesalmine targeted water-compatible molecularly imprinted polymer-silver nanoparticles, National symposium on Nanomaterials and sustainable synthetic strategies, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India, Mar 21-22, 2015.
3. FTIR, FT-Raman and theoretical simulations of 5-Amino salicylic acid, National symposium on organic synthesis and advanced materials, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India, Mar 1-2, 2014.
4. Fabrication of water-compatible 'Mesalmine' imprinted polymeric sensor, International Conference on Recent Advances in Analytical Sciences Department of Chemistry, IIT, B.H.U., March 27-29, 2014.
5. A study of porosity of surface-grafted fenbufen-imprinted polymeric sensor International Conference On Recent Advances In Analytical Sciences, Department of Chemistry, IIT, B.H.U., March 27-29, 2014.
6. Science academies' lecture workshop on supramolecular chemistry-concepts and perspectives, Department of Chemistry, MMV, B.H.U., Varanasi, India, Apr 4-5, 2014.
7. National seminar on Sanskriti, kala evam darshana: bhartiyata ke pariprekshya me, MMV, B.H.U., Mar 14-15, 2014.

8. 15th CRSI National symposium in Chemistry, Synthesis and characterization of surface-grafted fenbufen-imprinted polymer,Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India, Feb 1-3, 2013.
9. Indo-US Workshop on Electrocatalytic materials for fuel and biofuel cells, Department of Chemistry, B.H.U., Feb 26-28, 2013.
10. Chitosan-based hydrogels –synthesis, characterization and swelling behavior, Fifth International conference on electroactive polymers: Materials and devices, Department of Physics, B.H.U., Nov 04-09, 2012.
11. National Seminar on Allama Iqbal Shakhsiyat aur Karname, MMV, B.H.U., Nov 09-10, 2012.
12. National seminar on The Relevance of Gandhi and his Timeless Legacy, MMV, B.H.U., Varanasi, India, Mar 20-21, 2012.
13. Synthesis, characterization and photoluminescence study of sulfobetaine polyelectrolyte based on Schiff base chemistry, National symposium on emerging trends in chemical sciences, Department of Chemistry, B.H.U., Feb 19-20, 2011.
14. Dielectric Studies of A Synthesized Zwitterionic Polymer Electrolyte Tuhina Tiwari, Nazia Taranum, Meenakshi Singh, Neelam Srivastava National Conference on Recent Trends in Exotic materials 2010
15. Grafting of zwitterionic polymer on silica surface via Michael addition, National seminar on advances in chemical sciences, Department of Chemistry, U.P.College, Varanasi, Sept' 8, 2012.

16. *Sulphobetaine and NaSCN: A New Zwitterionic Polymer Electrolyte System* Tuhina Tiwari, Nazia Tarannum, Meenakshi Singh and Neelam Srivastava in 8th National Conference on Solid State Ionics 2009, Dr S H G University, Sagar (MP) 7-9 Dec 2009.

17. Synthesis, Characterization and Photoluminescence study of Sulfobetaine Polyelectrolyte Based on Schiff base chemistry, National Symposium on Emerging Trends In Chemical Sciences, 19-20 Feb 2011, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India.

18. Synthesis, Thermal Stability and Antibacterial Activity of Novel Sulfobetaine Polymer, 13th CRSI National Symposium in Chemistry & 5th CRSI-RSC Symposium in Chemistry, 4-6 Feb 2011, National Institute for Science Education and Research & Kalinga Institute of Industrial Technology, Bhubaneswar, Orissa.

19. National Seminar on Mahamana's vision and the challenges of the millennium development goals, MMV, B.H.U., March 01-02, 2011.

20. Emerging Trends in Materials Synthesis and Characterization held on 6-11 Dec 2010, Department of Metallurgical Engineering, IT, B.H.U., Varanasi, India.

21. Molecularly imprinted material prepared by surface imprinting technique for trace analysis of 'aspartame', National Conference on Experimental Tools for Material Science Research: State of Art, 3-4 Dec 2010, Department of Physics, MMV, B.H.U., Varanasi, India.

22. Seminar on Higher education and sustainable development: emerging challenges and mahamana's vision, B.H.U., Dec 24-25, 2010.

23. Synthesis and characterization of novel poly(iminosulfobetaine)s and poly(iminocarboxybetaine)s, Frontiers in Polymer Science, 7-9 June 2009, Mainz Convention Center, Mainz, Germany.

24. National seminar and workshop on metabolic networks and drug designing, MMV, B.H.U., March 28-30, 2008.

25. Synthesis and Swelling Behaviour of Responsive Hydrogel, National Symposium on Advances in Analytical Sciences and Applications, Department of Chemistry, H.P.University, Shimla, April 9-11,2007.

26. National Symposium on Current Trends in Chemistry, Department of Chemistry, B.H.U., March 24-25, 2007.

27. National Seminar and Workshop on Bioinformatics and Computational Biology, MMV, B.H.U., March 22-24, 2006.

28. National Symposium on Designing the Molecular World through Chemistry, Department of Chemistry, B.H.U., March 24-25, 2006.

29. National Conference on Newly emerging areas in chemical sciences, Department of Chemistry, U.P.College, December 22-24, 2006.

30. Frontier Lectures in Chemistry, organized by JNCASR, Bangalore held in Department of Chemistry, B.H.U., October 16-18, 2005.

31. Organic Synthesis: New Dimensions, Department of Chemistry, Department of Chemistry, B.H.U., March 6-7, 2005.

32. '*Dissipative quartz crystal microbalance technique under conductive environment'* Chemistry in the Development of Newer Materials, Department of Chemistry, B.H.U. February 23-24, 2004.

33. Microscale Experiments in Chemistry, Department of Chemistry, B.H.U. in August 8-10, 2001.

34. Indian Science Congress Association Conference, Patiala University, Patiala, January 3-8,1996.

35. Indian Science Congress Association Conference, Jadavpur University, Jadavpur January 3-8,1995.

36. Indian Chemical Society Conference, of Chemistry, B.H.U., Dec'1994.

ADMINISTRATIVE EXPERIENCE:

1. Admin. Wardenship of PH Girls Hostel (2006-2012)
2. Convener, Admission Committee of B.Sc. (Hons) Sem I, MMV 2014, 2015.
3. Member, IQAC Cell, MMV, 2013
4. Time-Table Committee, Science. MMV, 2013.
5. Member, Honours allotment Committee, 2009-2013.
6. Member, Volunteers Committee, 94th Convocation, 2012 of University.
7. Member, Seating, Stage & Decoration committee in 94th Convocation, 2012 of Faculty of Science, B.H.U.
8. Member, Seating, Stage & Decoration committee in 95th Convocation, 2013 of Faculty of Science, B.H.U.
9. Member, Seating, Stage & Decoration committee in 96th Convocation, 2014 of Faculty of Science, B.H.U.
10. Member, Library Committee, MMV, 2012.
11. Member, Ancillary subject allotment Committee, MMV, 2012.
12. Convener, Ancillary subject allotment Committee, MMV, 2013
13. Member, Library Committee, MMV, 2013.
14. Smooth Organization and to maintain discipline in Youth Festival of Mahila Mahavidyalaya, '*Manthan'* (2006-2014)
15. Member, LOC, Indo-US workshop on electrocatalytic materials for fuel and biofuel cells, February 26-28, 2013, Department of Chemistry, Faculty of Science, BHU
16. Convener, Admission Committee, B.Sc.(Hons) I, MMV, 2014.
17. Member, Merger Committee for IHEW & MMV, 2014.
18. Course Proposer, M.Sc in Applied Physical Sciences, IHEW, MMV, 2014.
19. Member, LOC, National Seminar and Workshop on Bioinformatics and Computational Biology, MMV, B.H.U., March 22-24, 2006
20. Member, LOC, National Symposium on Designing the Molecular World through Chemistry, Department of Chemistry, B.H.U., March 24-25, 2006
21. Member, LOC, National Symposium on Current Trends in Chemistry, Department of Chemistry, B.H.U., March 24-25, 2007.
22. Member, LOC, National seminar and workshop on metabolic networks and drug designing, MMV, B.H.U., March 28-30, 2008
23. Member, LOC, National Conference on Experimental Tools for Material Science Research: State of Art, 3-4 Dec 2010, Department of Physics, MMV, B.H.U., Varanasi, India.
24. Member, LOC, National symposium on emerging trends in chemical sciences, Department of Chemistry, B.H.U., Feb 19-20, 2011
25. Member, LOC, National Symposium on Emerging Trends In Chemical Sciences, 19-20 Feb 2011, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India.
26. Member, LOC, National Seminar on Mahamana's vision and the challenges of the millennium development goals, MMV, B.H.U., March 01-02, 2011
27. Member, LOC, National Seminar on Allama Iqbal Shakhsiyat aur Karname, MMV, B.H.U., Nov 09-10, 2012
28. Member, LOC, National seminar on The Relevance of Gandhi and his Timeless Legacy, MMV, B.H.U., Varanasi, India, Mar 20-21, 2012
29. Member, LOC, 15th CRSI National symposium in Chemistry, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India, Feb 1-3, 2013
30. Member, LOC, National symposium on organic synthesis and advanced materials, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India, Mar 1-2, 2014
31. Member, LOC, Science academies' lecture workshop on supramolecular chemistry-concepts and perspectives, Department of Chemistry, MMV, B.H.U., Varanasi, India, Apr 4-5, 2014
32. Member, LOC, National seminar on Sanskriti, kala evam darshana: bhartiyata ke pariprekshya me, MMV, B.H.U., Mar 14-15, 2014
33. Member, LOC, National symposium on organic synthesis and advanced materials, Department of Chemistry, Faculty of Science, B.H.U., Varanasi, India, Mar 1-2, 2014.