Title	Dr. (Mrs.)	Name	UMA SHARMA	Photograph
Department		School of Studies in Chemistry & Biochemistry, Vikram University, Ujjain (M.P.) 456 010 INDIA		
Designation		Professor Physical Chemistry		
Address		F-2/33, University Qtrs., Vikram University Campus, Kothi Rd Ujjain (M.P.)		
Phone- Office		+91 734 2928008		
Residence		+91 734 2511703		
Mobile		+91 9826840614		
E-Mail		umasharma10@rediffmail.com aumuma02@gmail.com		

Educational Qualifications

Degree	Institution	Year
Ph.D.	UTD,VikramUniversity,Ujjain	1985under supervision of Prof.V.W. Bhagwat (Von Humboldt Fellow)
PG	UTD,VikramUniversity,Ujjain UTD,VikramUniversity,Ujjain	1982 1981
UG	Govt. Girl's Degree College, Ujjain,	1979
Other		

Career Profile

1. Lecturer, Govt. College Mahidpur 1984-1986
2. Lecturer School of Studies in Chemistry & Biochemistry, Vikram University, Ujjain (M.P.) 1986-1981
3. Sr. Lecturer, School of Studies in Chemistry & Biochemistry, Vikram University, Ujjain (M.P.) 1991-1994
4. Reader, School of Studies in Chemistry & Biochemistry, Vikram University, Ujjain (M.P.) 1994-2007
5. Professor, School of Studies in Chemistry & Biochemistry, Vikram University, Ujjain (M.P.) 2007- till date
6. Chairman, Board of Studies Chemistry, 2012-2015

Area of Interest/ Specialization

(1) BIOINORGANIC CHEMISTRY

(a) Membrane Technology- Separation techniques

(b) Transport of biologically important metal ions & biomolecules

(2) SUPRAMOLECULAR CHEMISTRY

(a) Design and Synthesis of Ionophores/Receptors, redox switchable &photo switchable ionophores.

(b) Synthesis of Cucurbiturils & their derivatives

(c) Molecular recognition & sensors

(3) NANOTECHNOLOGY

(a) Biocompatibility of fullerenes

(b) Nanomaterials- (i) Chitosan based nanoparticles & drug loading

(ii) Biocompatible nanomaterial and nanocatalyst

(iii) Inorganic and organic hybrid material

Subjects Taught

1. Spectroscopy – IR & Raman, 1H, 13C NMR, NQR, ESR, UV-Visible spectroscopy, Mössbauer and Photoelectron spectroscopy, ELLS, ESCA etc.

2. Supramolecular Chemistry & Nanotechnology - Ion Selective Electrodes, Chemical Sensors /Biosensors, Molecular Devices and smart materials

3. Physical Chemistry- X- ray Diffraction, Electron Diffraction , Surface chemistry, Nuclear Chemistry, Electrochemistry, Polymer Chemistry, Photophysical Chemistry ,LASERs etc.

4. Biochemistry -Enzymology, Biomimetic Chemistry, Bio analytical Chemistry. Instrumental methods of analysis etc.

Publication Profile

Citation: 413
h-index- 13

i 10 index- 10

Total Publications- 76

Ph.D.awarded-20, Working-08, M.Phil.-120

Publications

1. Kale D., Muktibodh S., Sharma U., Bhagwat V.W. , Nat. Acad. Sci. Lett 12, (1989) 73.
2. Asrani L., Sharma U., Bhagwat V.W. , Nat. Acad. Sci. Lett . 4, (1991), 2. .
3. Sharma U., Bhagwat V.W., Asian J. Chemistry, 4, (1992), 758.
4. Mahadevan N., Sharma U., Ind. J. Chem., 31A, (1992), 383.
5. Quershi R., Sharma U., Bhagwat V.W., Nat.Acad. Sci. Lett, 15, (1992), 18.
6. Mishra D., Sharma U., Bhagwat V.W., J. Ind. Chem. Soc. 69, (1992), 70.
7. Mishra D., Sharma U., Bhagwat V.W., J. Sci. Phys. Sci. 4, (1992), 74.
8. Mahadevan N., Sharma U., Nat. Acad Sci. Lett 8, (1993).
9. Mishra D., Mahadevan N., Sharma U., Bhagwat V.W. , Ind. J.Chem., 32A, (1993) 608.
10. Sharma U., J.Ind. Chem. Soc. 79, (1993), 559.
11. Mishra D., Sharma U., Chem. Edu.,14, (1993).
12. Mishra D., Sharma U., K. Surf. Sci. Techol. 9(1993),1.
13. Qureshi K.S., Mishra D., Sharma U., Bhagwat V.W., J. Ind. Chem.. Soc., 70, (1994).
14. Asrani L., Sharma U., Ind. J. chem., 33A (1994) 176.
15. Mishra D. and Sharma U., J. Ind. Coun. Chem.,12, (1996), 39.
16. Mishra D. and Sharma U., Ult. Sci. Phys. Sci., 8, (1996), 89.
17. Mishra D. and Sharma U., Indian J. Chem., 35A (1996), 1014
18. Mishra D. and Sharma U., Ind. J. Chem. Tech., 3, (1996), 245.
19. Mishra D. and Sharma U., Proc. Ind. Acad. Sci. (Chem. Sci.) 108, (1996), 65-68
20. Deepa S. and Sharma U., J. Sci. Isla. Rep. Iran, 8, (1997), 2.
21. Mishra D. and Sharma U., Main Group Metal Chemistry, 20, (1997), 761.

22. Khamaru S. and Sharma U. J. Surf. Sci. Technol., 11, (1997), 33.

23. Khamaru S. and Sharma U., Acc. Chem. Res. (M), 8, (1998),1844-1852.

24. Mishra D. and Sharma U., Chem. Edu., 13, (1997), 5.

25. Mishra D. and Sharma U., Chem. Edu. 13, (1997), 18.

26. Mishra D. and Sharma U. Nat. Acd. Sci. Lett. 21 (1998) 11.

27.Bhatnagar M. and Sharma U., J. Sci. I. R. Iran, 13, (2002) 113-120.

28. Mishra D. and Sharma U. J. Sep. Purification Technol., 27 (2002) 51-57

29. Deepa S. and Sharma U., J. Main Group Metal Chemistry, 26, 1 (2003), 27-34

30. Bhatnagar M., Awasthy A. and Sharma U., J. Main group Metal Chemistry 27,3, (2004), 163.

31. Awasthy A., Bhatnagar M., Tomar J. and Sharma U., J. Bioinorganic Chemistry and Applications, article ID 97141, (2006) 1–4.

32. Tomar J. and Sharma U., J. Main Group Metal Chemistry, 29 (3) (2006) 119.

33. Awasthy A., Joshi N. Sharma U., Ind. J. Chem.; 45 (5) (2006) 1170.

34. Awasthy A., Bhatnagar M., Tomar J. and Sharma U., J. Bioinorganic Chemistry and Applications, article ID 97141, (2006) 1–4.

35. Joshi P., Joshi N. and Sharma U., J. Biochem & Biophysics, 43 (2006), 323-326.

36. Bhatnagar M., Tomar J. Sharma U., J. Proc. of Natl. Acad. of Sci., Sec.A, 76 (1) (2007), .

37. . Braun T., Mark L., Ohmacht R. and Sharma U. “Fullerenes Nanotube Carbon Nanostructures”, 15 (4) (2007).

38. Tomar J., Awasthy A. and Sharma U., Desalination, 232(1-3) (2008), 102-109.

39. Dubey S., Joshi N. and Sharma U., Main Group Metal Chemistry, 31, (2008).

40. Bhatnagar M., Awasthy A. and Sharma U., Main Group Metal Chemistry. 31, (2008).

41. Vyas V., Vani A., Dubey S., Mimrot M. and Sharma U., Main Group Metal Chemistry., 31, (2008).

42. Mehta B. K., Sharma U., Agrawal S., Pandit V, Joshi N. and Gupta M. , Medicinal Chem. Res., 17, (2- 7), (2008) 462-473.

43. Mimrot M, Tomar J. and Sharma U., Main Group Metal Chemistry, 31 (6) (2008) 289-294.

44. Khamaru S., Joshi N., Awasthy A. and Sharma U., Main Group Metal Chemistry, 31, (6) (2008), 311- 318.

45. Tomar J., Awasthy A. and Sharma U., Desalination, 232, (2008), 102-109.

46. Dubey S., Joshi N. and Sharma U., Main Group Metal Chemistry 31, (2008).

47. Vyas V., Vani A., Dubey S., Mimrot M. Sharma U., Main Group Metal Chemistry, 31,6, (2008), 283

48. Lokwani L. and Sharma U., Main Group Metal Chemistry, 31, (2008), 235-242.

49. Dubey S., Joshi N. and Sharma U., Review in Inorganic Chemistry, 29, 2, (2009).

50. Ajwani P. , Lokwani L. and Sharma U. , Main Group Metal Chemistry, 33, 5, (2010), 4-

51. Vani A., Vyas V., and Sharma U., *Proc. of Natl. Acad. of Sci*. Sec.A, 80, II,(2010).

52. Ajwani P., Lokwani L. and Sharma U., *J. Chem. Pharm. Res.,* 2(3), 5(2010),579-586.

53. .Raizada P., Vyas V. and Sharma U. *Ind. J. Chem. Technol.* 17, (2010)267-273.

54. Raizada P. and Sharma U. ,*Proc. of Natl. Acad. of Sci.* Sec.A, 80, II,(2010).

55. Ajwani P. , Lokwani L. and Sharma U. , *Main Group Metal Chemistry*, 33, 5, (2010),4

56. Raizada P. and Sharma U., *Main Group Metal Chemistry, 33* (2010),321-323.

57. Vyas V., Raizada P. and Sharma U., International Journal of Electrochemistry (2011), Article ID 798321, 6 pages.

58. Anchaliya D., VyasV.,VaniA.and Sharma U., *J. Chem. Pharm. Res.,* 3(6), (2011), 46-55.

59. TomarJ.,Chauhan P.S. and Sharma U. *J.Incl Phenom &Macrocycl. Chem.* 51(2011)

60.Anchaliya D., VyasV., Vani A. and Sharma U. *J. Chem. Pharm. Res*., 3(6), (2011),46-55.

61. Anchaliya D. and Sharma U.*Natl. Acad. Sci. Lett.* July–August 2012, 35(4),277–284.

63. Joshi N., Roy R. U. and Sharma U., *Asian J. Res. Chem.*, (2014), 7(9), 795-798.

64. Jadham J., Sharma S. andSharma U., *Proceedings of conference on Technologies For Sustainable*

Rural Development (TSRD-2014) organized by AMPRI Bhopal,197-201

65. Anchaliya D. and Sharma U. *J Incl Phenom Macrocycl Chem.,* 77(1-4),(2014)

66. Gautam V., Lokwani L., Sharma S. and Sharma U., *Int. J. Chem. Pharm. Res.* , 5(5), 81-91 (2016).

67. Anchaliya D., Sharma U., Main Group Metal Chemistry, 40(1-2), 27-33, (2017).

68. Ajwani P., Lokwani L., Sharma U. , *Int. J. Chem. Pharm. Anal.*, 5(1), (2017)

69. Sanyal M., Malviya M. and Sharma U. *Int. J. Eng. Technol. Sci. Res.*, 4(4), 360-363, (2017).

70. Sanyal M. and Sharma U., *SN Appl. Sci.*, 1 (4), 353-363, (2019).

71. Sharma K., Joshi P. and Sharma U., *Arab. J. Chem.*, 13(3), 4764-4770, (2019).

73.Hariyani P., Vijay R., Lokwani L. and Sharma U., *J. Sci. I. R. Iran*, 31(1), 45-49,(2020)

74. Sharma R, Sharma. U., *Indian J. Pharm. Sci.,* **(**2021), 83(1), 60-68**. DOI:** 10.36468/

75. Joshi S., Sharma K, Sharma. U, J.*Adv. Sci. Res,* 2021,12(1), suppl.2, 56-64

76 Joshi S., Sharma K, Jadahm J, Sharma. U,., *Indian Journal of Chemistry* ,60A, 2021

77. Joshi S., Sharma K, Malviya M, Sharma. U Asian Journal of Chemistry 34(8):2141-2146, July 2022, DOI:10.14233/ajchem.2022.23813

78. Sanyal, M., Sharma, U., Journal of the Indian Chemical Society**,** Volume 98, Issue 10, October 2021, 100149

Collaboration :

- AMPRI ,MANIT Bhopal
- Govt. College, Kota

Research Guidance

Supervision of awarded Doctoral Thesis:

1. Ms Deepti Mishra, 1992 Solution studies and isolation of alkali and alkaline earth metal complexes of non -cyclic polyethers.
2. Ms Loni Asrani, 1993 Extraction and transport studies of_____ Furan containing ionophores
3. Ms Neena Mahadevan, 1993 Not Available
4. Ms Rafat quereshi, 1994 Not Available
5. Ms Deepa Shivrajan, 1995 Not Available
6. Ms Shipra Khamaru, 1998 Membrane transport____ non-cyclic carboxylic ionophores.
7. Mr Deepak Kale, 1998 Not Available
8. Mrs Pratibha Joshi, 2002 Extraction and transport___ Urea and drug molecules.
9. Ms Mamta Bhatnagar, 2003 Design and synthesis of redox switched ionophores and their use in liquid membrane _____alkali n alkaline earth metal ions
10. Nidhi Joshi, 2006 Studies in_____synthetic receptors.
11. Anubhuti awasthy, 2007 Design & Synthesis_____ metal ions
12. Jyoti Tomar, 2007 "Studies in extraction and liquid membrane transport of alkali(Na+, K+) and alkaline earth metal ions ($Ca2^{+}$,$Mg2^{+}$) by synthetic Photoresponsive ionophores
13. Sangya Dubey, 2010 Synthesis of_____transition metal ions
14. Anshumala Vani, 2010 ,Design and synthesis of redox switched ionophores and their use in liquid membrane extraction and transport studies of alkali and alkaline earth metal cations(Li^{+},K^{+}, Ca^{++}, Mg^{++})
15. Manjusha mimrot, 2011, Liquid membrane technology – extraction and transport studies in alkali and alkaline earth metal cations and some neutral substrates using synthetic ionophores.

16. Pankaj Raijada, 2011 ,Studies in interaction of some neutral guests (amino acids & nucleobases) with tailored synthetic receptors- Moel for biomimetic systems

17. Vaishali Upadhyaya, 2012 ,Synthesis of anthraquinone derived redox switched lariate ethers – their applications in liquid membrane transport studies of $Na^{+}K^{+}$ $Ca2^{+}$, $Mg2^{+}$.

18. Disha Anchalia, 2013, Synthesis of series of redox switchable naphthaquinone derivedionophores and their use in metal ion recognition

19. Sushma Sharma 2016,Synthesis & Characterization of /chitosan…….and investigation of their autinicrobial activity

20. Maina Malviya, 2014 Molecular Recognization of some biomolecules ----------by cucurbiturial derivatives

Supervision of Doctoral Thesis, under progress:

Working - 08

Supervision of M.Phil dissertations:

More than 100 dissertations

Conferences Organized

1. National Conference on Elemento-Organic Chemistry in 2003
2. Academic workshop on New trends in Chemistry held on 26-27th March 2010
3. National conference on Social, Educational technological and medicinal relevance of Chemistry held on 25th-26th Nov.2011
4. Member and coordinator in Women Science Congress 2012
5. National Workshop on Separation Techniques, S.S. in Chemistry and Biochemistry, VU, Ujjain 23, 24 February 2018
6. Recent Advances in Spectroscopic Techniques, S.S. in Chemistry and Biochemistry, VU, Ujjain15, 16 March 2019
7. National conference on confluence of Nature and Science, Vikram University, Ujjain 28 Feb 2020
8. International conference on Science in New era, Vikram University, Ujjain 29 Feb 2020

9. National webinar on 'Spectroscopy and Solid state Chemistry', S.S. in Chemistry and Biochemistry, VU, Ujjain, 17- 18 July 2020
10. Webinar on Contribution of Indian Women Scientists in Chemistry, Institute of Pharmacy and S.S. in Chemistry and Biochemistry, VU, Ujjain ,10 May ,2020
11. Online seminar on the World Environment Day-2021 organized by School of Studies in Environment Management jointly with School of Studies in Botany & School of Studies in Chemistry & Biochemistry ,Vikram University Ujjain (M.P.) ,05 June 2021.

Research Projects

1. **Name of Project:** X-ray studies of alkali metal complexes withnon-cyclic polyethers.

   Funding Agency : UGC New Delhi 1989

   Grant: 10000/-

2. **Name of Project:** Carrier facilitated transport of alkali and alkaline earth metal ion by non-cyclic carboxylic ionophores.

   Funding Agency : MPCOST, Bhopal 1992

   Grant: 90000/-

3. **Name of Project:** Liquid membrane technology- Extraction andtransport of main group metal ion by synthetic receptors

   Funding Agency : AICTE, New Delhi 1998

   Grant: 1.5 lacs

4. **Name of Project:** Design and synthesis of supermolecules andtheir applications in chemical sensors.

   Funding Agency: UGC major project sanctioned in 2006 and completed

   Grant: 6.7 lacs

5. **Name of Project:** Studies in interaction of amino acids, nucleobases with synthetic receptors and applications in biomodelling n separation.

   Funding Agency: MPCOST sponsored project going on

   Grant: 11.9 lacs

Awards and Distinctions

1. III M.P. Young Scientists Award, 1988
2. Indian Science Congress Young Scientists Award, 1989
3. Indian National Science Academy Visiting Fellowship 1994 (worked at BARC ,Mumbai)
4. UGC awarded Indo-Hungarian Fellowship for 2005-06 (worked on Fullernes Biocompatibilty with Professor Tibor Braun) at Pec s Medical University ,Hungary in 2005
5. Dr D.S. Bhakuni Award 2013 by Indian Chemical Society ,Kolkata

Association with Professional Bodies

Memberships

1. Life member of Indian Science Congress Association, Kolkata
2. Life member of Indian Council of Chemists, Agra
3. Life member of Indian Membrane Society, Vadodara

Popular Articles –

- Application perspectives of extraction and membrane technology for separation of metal ions in Chemistry Education, (1998)UGC, New Delhi
- Chapter on Infrared Spectroscopy for manual of INGNOU ,New Delhi

Delivered Lectures

- Symposium on Membrane Science applications at **Convention of Chemists Rewa 1992**
- 21st Conference, **Indian Council of Chemists** at **Jabalpur, 2002.**
- 22nd Conference **Indian Council of Chemists** at **Roorkee,** 2003.
- Lecture on **Supramolecular Chemistry** at Govt P G College Neemuch 2003
- National seminar on **"Modern trends in Nanotechnology & Supramolecular Assemblies**" at

Ahmedabad,2007

- Lecture on **Mossbauer Spectroscopy** at P M Gujrati College,Indore 2007
- National seminar lecture **Nanotechnology-a biomimetic approach** at Khalsa College Indore 2008
- Academic Workshop lecture on **Nanotechnology & Supramolecular Chemistry** at Kota University Raj. 2009 Invited talk on **Molecular Recognition – a link between Supramolecular Chemistry & Nanotechnology at National seminar on Confluence of Supramolecular Chemistry & Nanoscience at Gujrat University2010**
- Invited lecture on **Liquid membrane transport studies of anthraquinone derived lariat ethers at IIT MUMBAI Apr. 2010**
- Invited talk at **NSRAC -2011** at Department of Pure and Applied Chemistrty University of Kota Raj.2011Invited lecture on **Recent trends in Chemistry** at Pacific University **Udaipur**. Jan. 2012
- Invited lecture at **Symposium on Rerearch methodology** on **Science day 2013 at MPCST Bhopal**.Invited lecture on **Membrane Separation Techniques at SGSITS ,Indore 2013**
- Invited lecture on **Supramolecular Chemistry & Nanotechnology** at Mohanlal Sukhadia University,UdaipurRajasthan 2014
- Invited talk on **Supramolecular Chemistry - an approach to Molecular engineering and soft matter. atMANIT Bhopal May 2015**
- Invited lecture in **International Conference on "Recent Trends in Chemical Sciences" at Jiwaji University, Gwalior 2018**
- Invited talk in **UGC-SAP(DRS-II) National Conference on "Advances in Environmental and Chemical Sciences" at Pt. Ravishankar Shukla University, Raipur 2018**
- Invited talk at the 3rd International Conference on "**Emerging Advanced Nanomaterials" held in Newcastle, Australia 2018.**
- Delivered invited lecture in **International Conference on "Role of Spectroscopy in Chemical Sciences" at Jiwaji University, Gwalior 2019.**
- Delivered lecture on "**Discovery of New Elements in Periodic Table" organised by MHRD & Dept. of Higher Education at Maharaja Ranjit Singh College, Indore in 2019.**

- Invited talk at National Academic workshop-2020 on "**Facet of Synthetic and analytical approach in Chemical Science" at Deptt. Pure & applied Chemistry,University of Kota from 12th -16th Mar.2020**

- Invited talk in six days workshop on "**Gyan Ganga Programme" at Department of Chemistry, Govt. College Kota, 2021.**
- Invited talk in webinar **Women in Science by DDU Gorakhpur University, Gorakhpur 8th March 2021.**
- Webinar on "**Applications of Electrochemistry: CV & applications, Graphene Nanoribbons synthesis, battery and polymer composite chip as electrode plateform" organized by Sinsil International Pvt. Ltd. India, in 2021.**
- Invited talk on **Mossbauer Spectroscopy in ACT, 2021**
- Delivered invited lecture in 7 days online workshop on "**Advance Research Methodology in Chemical Sciences" organized by Department of Chemistry, DDU Gorakhpur University, Gorakhpur 8th July 2021.**
- Attended Online **Orientation Training programme for Mentors by NITTTR Bhopal During 4th Jan to 13th Jan 2021**
- Delivered invited lecture **at Devi Ahilya Vishwavidyalaya in 24th Refresher Course in Chemistry (IDC) (Online Mode) 11/01/2022 to 24/01/2022 of UGC-Human Resource Development Centre.**
- **Resource person in Refresher Course 'CHEMISTRY AT THE INTERFACE WITH BIOLOGY AND MATERIAL SCIENCE: EMERGING FRONTIERS', during Nov.11-25, 2021.**

➢ *Positions Held*

Committees and Boards

- Nodal Officer and Member of IQAC, Vikram University
- RDC Expert Committee-
  - DAVV, Indore
  - Holkar Science College, Indore
  - Vikram University, Ujjain

Chairman Board of Studies -

- Vikram University, Ujjain , 2012-2015
- SGSITS, Indore
- DAVV, Indore

- Subject Expert in various committees of different Universities
- Member/ Chairman of various other committees of the University
- Nano Task Force, MPCST, Bhopal
- Project Evaluation Committee of Holkar Science College

Placements from Reasearch Lab:

- Dr. Deepti Mishra, Senior Principal Scientist, AMPRI, Bhopal
- Dr. Loni Lokwani Govt. College,Kota
- Dr. Shipra Khamaru, Jai Hind College,Mumbai
- Dr. Nidhi Joshi Quality Assurance Manager, Zydus-Cadilla, Ahemdabad
- Dr. Pankaj Raijada, Lecturer,Shoolini University, Himachal Pradesh
- Shakuntala Solanki: Selected in Scientific Officer in Forensic Science
- Shital Joshi, Selected in MPPSC Assistant Professor Examination

Forthcoming Research

- Synthesis of new supermolecules (Cucurbituril and rotaxanes) for specific purpose i.e. sensors andmolecular devices.
- Inorganic and organic hybrid materials n their applications
- Biocompatibility of fullerenes.

- Membrane transport studies- Biomodelling and use of vesicles as carrier. Soft matter etc.