DR. KAMLESH KUMAR SHRIVAS

JSPS (JAPAN), ORISE (USA), NSC (TAIWAN) and SRF-CSIR Fellow (India)

Associate Professor

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1. Educational Qualifications:-

- Ph. D. (Chemistry), 2004, Pt. Ravishankar Shukla University, Raipur, CG
- B. Sc. (1998) & M. Sc. (2000) (Chemistry), Pt. Ravishankar Shukla University, Raipur

2. Employment Details: (>14 Years):-

- **Associate Professor,** School of Studies in Chemistry, Pt. Ravishankar Shukla University, Raipur, CG from 10th March. 2017 to present date)
- **Assistant Professor**, Guru Ghsaidas Vishwavidyalaya, Bilaspur, CG, INDIA from 17th Aug. 2011 to 9th March, 2017
- Post Doctoral Fellow, Hamamatsu University School of Medicine, Department of Molecular Anatomy, JAPAN from 25th Sept. 2009 to 15th Aug. 2011
- **Post doctoral Fellow**, Food Drug and Administration, Center for Biologics Evaluation and Research, **USA** from 30th Oct. 2008 to 24th Sept. 2009
- **Post Doctoral Fellow**, National Sun Yat-Sen University and Tamkang University, **TAIWAN** from 15rd Mar. 2006 to 26th Sept. 2008
- Senior Quality Control Officer, Gharda Chemicals Ltd., Khed, MH from 2nd May 2005 to 1 March 2006
- Research Assistant (IAEA), Senior Research Fellow and Research Associate (CSIR), Pt. Ravishankar Shukla University Raipur, CG from 1st Aug. 2000 to 17th Apr. 2005

3. Research Interests:-

- Design and development inkjet printing/direct writing of electronic circuit with nano-ink and nanoparticles-based printed electrochemical, fluorescence and colorimetric chemical sensors
- Synthesis and application of nanomaterials for removal of toxic chemical substances from contaminated water samples
- Mass spectrometric profiling of lipids, proteins/peptides and metabolites in human, mouse and plants tissue samples
- Synthesis and characterization of nanoparticles for mass spectrometry applications for identification of proteins/peptides, lipids, drugs and toxicants

4. Award/Fellowships:-

- Fast Track Young Scientist Award, Department of Science and Technology, 2012-14
- Japanese Society for the Promotion of Science (JSPS) Fellowship, 2009-2011
- Oak Ridge Institute of Science and Education (ORISE) Fellowship, Food Drug and Administration, USA, 2008
- National Council of Science Fellowship, Taiwan, 2006-08
- Senior Research Fellowship/Research Associate, CSIR, Delhi, 2003-05

5. <u>Research Publications, Research Project, Research Students and Conferences:-</u>

- <u>Citation Indices:</u> Citations: 1926, h-index: 26, i10 index: 47

 (https://scholar.google.co.in/citations?user=4X269ykAAAAJ&hl=en)
- Research papers published in international journals: 73
- Average impact factor: 3.054
- Number of Ph.D. students supervising: 01
- Guided Master degree (PG) students for research project: 16
- Guided Bachelor students (UG) for research project: 10
- Papers published in proceedings: 03
- Book chapter published: 05
- Research project: 02
- International conferences attended: 03
- National conferences attended: 30

6. Research Projects:-

Title: Design and Development of Nanoparticles as Biochemical Probes and Sensors for the Detection of Biomolecules and Organic Toxicants (Ref No.: SERB/F/5507/2013-14 dated 26.11.2013) Funding Agency: Department of Science Technology, Amount: Rs. 23,70,000=00 (**Completed**)

Title: Design and development of low cost paper based printed electrochemical and colorimetric sensors (Ref No.: File No. EMR/2016/005813) Funding Agency: Department of Science Technology, Amount: ≈ Rs. 40,30,000=00 (**Ongoing**)

7. Editor and Referee of Journals:-

- (a) **Acts as Reviewer for the journals:** Analytical Chemistry, ACS Materials and interfaces, New Journal of Chemistry, RSC Advance, Sensors and Actuators, Talanta, Analytica Chimica Acta, Food Chemistry, Analytical Methods, Spectrochimica Acta B, Journal of Hazardous Materials, Environment Monitoring and Assessment, and Biochemistry and Biophysics Reports
- (b) Editor of Journal: Journal of Chemistry, Hindawi Publication

8. Membership/Recognitions:-

- Regular Member of the American Chemical Society, OH, USA
- Member of the Japanese Society for the Promotion of Science, Alumni Association, JAPAN
- Member of Indian Science Congress Association, Kolkata

9. Research Publications in International Journals:-

	<u>2019</u>
73.	R. Kurrey, M. K. Deb, K. Shrivas, B. R. Khalkho, J. Nirmalkar, D. Sinha, S.
	Jha, Citrate-capped gold nanoparticles as a sensing probe for determination of
	cetyltrimethylammonium surfactant using FTIR spectroscopy and colorimetry,
	2019 (https://doi.org/10.1007/s00216-019-02067-8).
72.	K. Shrivas*, B. Sahu, M. K. Deb, S. S. Thakur, S. Sahu, R. Kurrey, T. Kant, T.
	K. Patle, R. Jangde, Colorimetric and paper-based detection of lead using PVA
	capped silver nanoparticles: Experimental and theoretical approach,
	Microchemical Journal, 2019, 150, 104156 (Impact Factor:3.206)
71.	K. Shrivas*, A. Ghosale, T. Kant, P. K. Bajpai and R. Shankar, The direct-

	writing of low cost paper based flexible electrodes and touch pad devices using
	silver nanoink and ZnO nanoparticles, RSC Advance, 2019, 9, 17868-17876.
	(Impact Factor-2.936).
70.	R. Kurrey, M. K. Deb, K. Shrivas , Surface enhanced infra-red spectroscopy
	with modified silver nanoparticles (AgNPs) for detection of quaternary
	ammonium cationic surfactants, New Journal of Chemistry, 2019,43, 5109-
	8121. (IF:3.201).
69.	K. Shrivas, N. Nirmalkar, M. K. Deb, K. Dewangan, J. Nirmalkar, S. Kumar,
	Application of functionalized silver nanoparticles as a biochemical sensor for
	selective detection of lysozyme protein in milk sample, Spectrochimica Acta
	Part A, 2019, 213, 127–133 (IF:2.880).
68.	P. K. Dewangan, F. Khan, K. Shrivas , V. Sahu, Determination of uranium in
	environmental sample by nanosensor graphene quantum dots, Journal of
	Radioanalytical and Nuclear Chemistry, 2019, 1-7.
67.	R. Kurrey, M. Mahilang, M. K. Deb, K. Shrivas , Analytical approach on
	surface active agents in the environment and challenges, Trends in
	Environmental Analytical Chemistry, 2019 (Impact Factor-4.462).
66.	S. Yadav, K. Shrivas , P. K. Bajpai, Role of precursors in controlling the size,
	shape and morphology in the synthesis of copper sulfide nanoparticles and
	their application for fluorescence detection, Journal of Alloys and Compounds,
	2019, 772, 579–592 (IF-3.779).
65.	K. Shrivas, S. Sahu, B. Sahu, R. Kurrey, T. K. Patle, T. Kant, I. Karbhal, M. L.
	Satnami, M. K. Deb, K. K. Ghosh, Silver nanoparticles for selective detection of
	phosphorus pesticide, containing π -conjugated pyrimidine nitrogen and sulfur
	moieties through non-covalent interactions, Journal of Molecular Liquids,
	2019, 275, 297–303 (IF-4.513)
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64.	R. Kurrey, M. Mahilanga, M. K. Deb, J. Nirmalkar, K. Shrivas , S. Pervez, M. K.
64.	R. Kurrey, M. Mahilanga, M. K. Deb, J. Nirmalkar, K. Shrivas , S. Pervez, M. K. Rai, J. Rai, A direct DRS-FTIR probe for rapid detection and quantification of
64.	R. Kurrey, M. Mahilanga, M. K. Deb, J. Nirmalkar, K. Shrivas , S. Pervez, M. K. Rai, J. Rai, A direct DRS-FTIR probe for rapid detection and quantification of fluoroquinolone antibiotics in poultry egg-yolk, Food Chemistry, 2019, 270,
64.	R. Kurrey, M. Mahilanga, M. K. Deb, J. Nirmalkar, K. Shrivas , S. Pervez, M. K. Rai, J. Rai, A direct DRS-FTIR probe for rapid detection and quantification of fluoroquinolone antibiotics in poultry egg-yolk, Food Chemistry, 2019, 270, 459–466 (IF-4.946).
64.	R. Kurrey, M. Mahilanga, M. K. Deb, J. Nirmalkar, K. Shrivas , S. Pervez, M. K. Rai, J. Rai, A direct DRS-FTIR probe for rapid detection and quantification of fluoroquinolone antibiotics in poultry egg-yolk, Food Chemistry, 2019, 270,
64.	R. Kurrey, M. Mahilanga, M. K. Deb, J. Nirmalkar, K. Shrivas , S. Pervez, M. K. Rai, J. Rai, A direct DRS-FTIR probe for rapid detection and quantification of fluoroquinolone antibiotics in poultry egg-yolk, Food Chemistry, 2019, 270, 459–466 (IF-4.946).
	R. Kurrey, M. Mahilanga, M. K. Deb, J. Nirmalkar, K. Shrivas , S. Pervez, M. K. Rai, J. Rai, A direct DRS-FTIR probe for rapid detection and quantification of fluoroquinolone antibiotics in poultry egg-yolk, Food Chemistry, 2019, 270, 459–466 (IF-4.946). 2018

and B₆ in brown and white rice food samples, 2018, 250, 14-21. (IF-4.946) 62. K. Shrivas*, N. Nirmalkar, S. S. Thakur, R. Kurrey, D. Sinha, R. Shankar, Experimental and theoretical approach for selective detection of thymine in real samples using gold nanoparticles as a biochemical sensor, RSC Advance, 2018, 8, 24328-24337 (IF: 3.10) A. Ghosale, K. Shrivas*, M. K. Deb, V. Ganesan, I. Karbhal, P. K. Bajpai, R. 61. Shankar, A low-cost screen printed glass electrode with silver nano-ink for electrochemical detection of H2O2, Anal. Methods, 2018, 10, 3248-3255. (IF: 2.073) R. Kurrey, M. K. Deb, K. Shrivas, Methyl orange paired microextraction and 60. diffuse reflectance-fourier transform infrared spectral monitoring for improved signal strength of total mixed cationic surfactants, Journal of Surfactants Detergents, 2018, 21, 197–208. (IF: 1.450) 2017 A. Ghosale, K. Shrivas*, R. Shankar, and V. Ganesan, Low Cost Paper 59. Electrode Fabricated by Direct Writing with Silver Nanoparticles Based Ink for Detection of Hydrogen Peroxide in Waste Water, Analytical Chemistry (ACS), 2017, 89, 776-782. (IF-6.552) 58. K. Shrivas*, J. Sahu, P. Maji, D. Sinha, Label-free selective detection of ampicillin drug in human urine samples using silver nanoparticles as a colorimetric sensing probe, New Journal of Chemistry (RSC) 2017, 41, 6685— 6692 (IF-3.277). K. Shrivas*, A. Ghosale, N. Nirmalkar, A. Shrivastava, S. K. Singh, Sandeep S. 57. Shinde, Removal of endrin and dieldrin isomeric pesticides through stereoselective adsorption behavior on the graphene oxide-magnetic nanoparticles, Environmental Science and Pollution Research, 2017, 24, 24980-24988 (IF-2.800). G. K. Patra, R. Chandra, A. Ghorai, K. Shrivas, A highly selective 56. benzildihydrozone based Schiff base chromogenic chemosensor for rapid detection of Cu²⁺ in aqueous solution, Inorganic Chimica Acta, 2017, 462, 315-322. (IF-2.264) 55. K. Shrivas*, P. Maji, K. Dewangan, Onsite-detection of barium and nickel from river, pond and tap water samples using gold nanoparticles as a chemical sensor, Spectrochim. Acta Part A, 2017, 630-636. (IF-2.880)

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- 54. **K. Shrivas*,** N. Nirmalkar, A. Ghosale, S. S. Thakur, R. Shankar, Enhancement of plasmonic resonance through the exchange reaction on the surface of silver nanoparticles: application for highly selective detection of triazophos pesticide in food vegetable samples, RSC Advance, 2016, 6, 80739-80747. (IF 3.82).
- 53. A. Ghosale, R. Shankar, V. Ganesan, **K. Shrivas***, Direct-writing of paper based conductive track using silver nano-ink for electroanalytical application, *Electrochimica Acta*, 2016, 209, 511-520. (IF-4.798).
- 52. **K. Shrivas***, K. Dewangan, A. Ahmed, Surfactant-based dispersive liquid-liquid microextraction for the determination of zinc in environmental water samples using flame atomic absorption spectrometry, Analytical Methods, 2016, 8, 5519-5525. (IF-1.900).
- 51. **K. Shrivas***, N. Nirmalkar, A Ghosale, S. S. Thakur, Application of silver nanoparticles for a a highly selective colorimetric assay of endrin in water and food samples based on stereoselective endo-recognition, *RSC Advances*, 2016, 6, 29855-29862. (IF 3.82).
- 50. **K. Shrivas***, S. Sahu, A. Ghorai, R. Shankar, Gold nanoparticles-based colorimetric determination of cationic surfactants in environmental samples via both electrostatic and hydrophobic interactions, *Microchimica Acta*, 2016, 183, 827-836. (IF 4.580).
- 49. **K. Shrivas***, S. Sahu, G. K. Patra, N. K. Jaiswal, R. Shankar, Localized surface Plasmon resonance of silver nanoparticles for sensitive colorimetric detection of chromium in surface water, industrial waste water and vegetable samples, *Analytical Methods*, 2016, 8, 2086-2096. (IF1.900).
- 48. A. Sharma, K. Tapadia, R. Sahin, **K. Shrivas**, Surfactant assisted nanodrop spectrophotometer determination of iron in a single drop of food, biological and environmental samples, *Journal of Applied Spectroscopy*, 2016, 82, 1064-1071. (IF 0.476)

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47. **K. Shrivas***, R. Shankar, K. Dewangan, Gold nanoparticles as localized surface Plasmon (LSPR) based chemical sensor for on-site colorimetric detection of arsenic in water samples, *Sensors and Actuators B*, 2015, 220, 1376-1383 (IF 5.401)

- 46. **K. Shrivas***, K. Tapadia, Ionic liquid matrix based dispersive liquid-liquid microextraction for enhanced MALDI-MS analysis of phospholipids in soybean, *Journal of Chromatography B*, 2015, 1001, 124-130. (IF 2.729)
- 45. **K. Shrivas***, K. Dewangan, Surfactant-assisted dispersive liquid-liquid microextraction for sensitive spectrophotometric determination of iron in food and water samples and comparision with atomic absorption spectrometry, *Journal of Surfactants and Detergents*, 2015, 18, 1137-1144. (IF 1.82)

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- 44. **K. Shrivas**, S. T. Mindaye, M. Getie-Kebtie, M. A. Alterman, Mass spectrometry-based proteomic analysis of human liver cytochrome(s) P450. *Toxicology and Applied Pharmacology*, 2013, 267, 125-136 (IF 3.791).
- 43. **K. Shrivas***, N. K. Jaiswal, Dispersive liquid-liquid microextraction for the determination of copper in cereals and vegetable food samples using flame atomic absorption spectrometry, *Food Chemistry*, 141 (2013) 2263–2268 (IF 4.529).

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- 42. **K. Shrivas**, H. F. Wu, Rapid and highly sensitive protein extraction via cobalt oxide nanoparticle-based liquid-liquid microextraction coupled with MALDI mass spectrometry, *Analyst*, 2012, 137, 890-895 (IF 4.23).
- 41. **Shrivas**, **K.,** Hayasaka, T., Sugiura, Y., Setou, M. Method for simultaneously imaging of low molecular metabolites in mouse brain using TiO₂ nanoparticles in Nano-PALDI-IMS, *Analytical Chemistry*, 2011, 83, 7283–7289 (IF 5.411).

<u>2011</u>

- 40. **K. Shrivas**, K. Agrawal, H. F. Wu, Application of platinum nanoparticles as affinity probe and matrix for direct analysis of small biomolecules and microwave digested proteins using matrix-assisted laser desorption/ionization mass spectrometry, *Analyst*, 2011, 136, 2852-2857 (IF 4.23).
- 39. **K. Shrivas*,** D. K. Patel, Ultrasound assisted -hollow fiber liquid phase microextraction for the determination of selenium in vegetable and fruit samples by using GF-AAS, *Food Chemistry*, 2011, 124, 1673-1677 (IF 4.529).
- 38. **K. Shrivas**, D. K. Patel, Matrix-assisted laser desorption/ionization mass spectrometry for quantitative determination of β-blocker drugs in one-drop of human plasma sample, *Journal of Chromatography* B, 2011, 879, 35-40 (IF

	2.777)
37.	K. Shrivas*, D. K. Patel, Quantitative determination of nicotinic acid in micro
	liter volume of urine sample by drop-to-drop solvent microextraction coupled
	to matrix assisted laser desorption/ionization mass spectrometry, 2011,
	Spectrochimica Acta Part A 78, 2011, 253–257. (IF 2.536)
36.	K. Tapadia, K. Shrivas , L. S. B. Upadhyay, GC-MS Coupled with hollow-fiber
	drop-to-drop solvent microextraction for determination of antidepressants
	drugs in human blood sample, Chromatographia, 2011, 74, 437-442. (IF
	1.411)
	<u>2010</u>
35.	K. Shrivas, T. Hayasaka, N. Goto-Inoue, Y. Sugiura, N. Zaima M. Setou, Ionic
	matrix for enhanced MALDI imaging mass spectrometry for identification of
	phospholipids in mouse liver and cerebellum tissue sections, Analytical
	Chemistry, 2010, 82, 8800-8806. (IF 5.411)
34.	K. Shrivas, H. F. Wu, Multifunctional nanoparticles composite for MALDI-MS:
	Cd ²⁺ doped carbon nanotubes with CdS nanoparticles as the matrix,
	preconcentrating and accelerating probes of microwave enzymatic digestion of
	peptides and proteins for direct MALDI-MS analysis, Journal of Mass
	Spectrometry, 2010, 45, 1452-14. (IF 2.422)
33.	K. Shrivas* , D. K. Patel, Separation and preconcentration of trace level of lead
	in one drop of blood sample by using graphite furnace atomic absorption
	spectrometry, Journal of Hazardous materials, 2010, 176, 414-417 (IF 6.065)
32.	K. Shrivas*, D. K. Patel, Liquid-phase microextraction combined with gas
	chromatography mass spectrometry for rapid determination of nicotine in one-
	drop of nightshades vegetables and commercial food product, Food Chemistry,
	2010, 122, 314-318. (IF 4.529)
31.	H. F. Wu, K. Agrawal, K. Shrivas , Y. H. Lee, On particle ionization/enrichment
	of multifunctional nanoprobes: Washing/separation-free, acceleration and
	enrichment of microwave-assisted tryptic digestion of proteins via bare TiO2
	nanoparticles in ESI-MS and comparing to MALDI-MS, Journal of mass
	Spectrometry, 2010, 45, 1402-1408. (IF 2.422)
30.	H. J. Yang, Y. Sugiura, I. Ishizaki, N. Sanada, K. Ikegami, N. Zaima, K.
	Shrivas, M. Setou, Imaging of lipids in cultured mammalian neurons by
	matrix assisted laser/desorption ionization and secondary ion mass

	spectrometry, Surface and Interface Analysis, 2010, 42, 1606–1611. (IF 1.132)
29.	M. Sroyraya, N. Goto-Inoue, N. Zaima, T. Hayasaka, P. Chansela, S.
	Tanasawet, K. Shrivas, P. Sobhon, M. Setou, Visualization of biomolecules in
	the eyestalk of the blue swimming crab, Portunus pelagicus, by imaging mass
	spectrometry using the atmospheric-pressure mass microscope, Surface and
	Interface Analysis, 2010, 42, 1589–1592. (IF 1.132)
28.	T. Hayasaka, N. Goto-Inoue, N. Zaima, K. Shrivas , Y. Kashiwagi, M.
	Yamamoto, M. Nakamoto, M. Setou, Imaging mass spectrometry with silver
	nanoparticles reveals the distribution of fatty acids in mouse retinal sections,
	Journal of the American Society for Mass Spectrometry, 2010, 21, 1446-1454.
	(IF 3.411)
27.	M. Setou, K. Shrivas , M. Sroyraya, H. Yang, Y. Sugiura, J. Moribe, A. Kondo,
	K. Tsutsumi, Y. Kimura, N. Kurabe, T. Hayasaka, N. Goto-Inoue, N. Zaima, K.
	Ikegami, P. Sobhon, Y. Konishi, Developments and applications of mass
	microscopy, Medical Molecular Morphology, 2010, 43, 1-5. (IF 1.296)
26.	K. Shrivas*, Monitoring of copper level in water and soil samples by using
	liquid-liquid extraction, Environmental Monitoring and Assessment, 2010, 168,
	315-319. (IF 1.687)
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25.	2009 K. Shrivas, H. F. Wu, Quantum dots laser desorption/ionization MS:
25.	2009 K. Shrivas, H. F. Wu, Quantum dots laser desorption/ionization MS: multifunctional CdSe quantum dots as the matrix, concentrating probes and
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25.	2009 K. Shrivas , H. F. Wu, Quantum dots laser desorption/ionization MS: multifunctional CdSe quantum dots as the matrix, concentrating probes and acceleration for microwave enzymatic digestion for peptide analysis and high resolution detection of proteins in a linear MALDI-TOF MS, <i>Proteomics</i> , 2009,
	ZOU9 K. Shrivas , H. F. Wu, Quantum dots laser desorption/ionization MS: multifunctional CdSe quantum dots as the matrix, concentrating probes and acceleration for microwave enzymatic digestion for peptide analysis and high resolution detection of proteins in a linear MALDI-TOF MS, <i>Proteomics</i> , 2009, 9, 2656-2667. (IF 4.586).
	 Z009 K. Shrivas, H. F. Wu, Quantum dots laser desorption/ionization MS: multifunctional CdSe quantum dots as the matrix, concentrating probes and acceleration for microwave enzymatic digestion for peptide analysis and high resolution detection of proteins in a linear MALDI-TOF MS, <i>Proteomics</i>, 2009, 9, 2656-2667. (IF 4.586). K. Shrivas, S. K. Kailasa, H. F. Wu, Quantum dots-electrospray ionization
	 Z009 K. Shrivas, H. F. Wu, Quantum dots laser desorption/ionization MS: multifunctional CdSe quantum dots as the matrix, concentrating probes and acceleration for microwave enzymatic digestion for peptide analysis and high resolution detection of proteins in a linear MALDI-TOF MS, <i>Proteomics</i>, 2009, 9, 2656-2667. (IF 4.586). K. Shrivas, S. K. Kailasa, H. F. Wu, Quantum dots-electrospray ionization mass spectrometry: 3-mercaptopropanic acid capped CdS quantum dots as
	 2009 K. Shrivas, H. F. Wu, Quantum dots laser desorption/ionization MS: multifunctional CdSe quantum dots as the matrix, concentrating probes and acceleration for microwave enzymatic digestion for peptide analysis and high resolution detection of proteins in a linear MALDI-TOF MS, <i>Proteomics</i>, 2009, 9, 2656-2667. (IF 4.586). K. Shrivas, S. K. Kailasa, H. F. Wu, Quantum dots-electrospray ionization mass spectrometry: 3-mercaptopropanic acid capped CdS quantum dots as accelerating and enrichment probes for microwave tryptic digestion of
	 Z009 K. Shrivas, H. F. Wu, Quantum dots laser desorption/ionization MS: multifunctional CdSe quantum dots as the matrix, concentrating probes and acceleration for microwave enzymatic digestion for peptide analysis and high resolution detection of proteins in a linear MALDI-TOF MS, <i>Proteomics</i>, 2009, 9, 2656-2667. (IF 4.586). K. Shrivas, S. K. Kailasa, H. F. Wu, Quantum dots-electrospray ionization mass spectrometry: 3-mercaptopropanic acid capped CdS quantum dots as accelerating and enrichment probes for microwave tryptic digestion of proteins, <i>Rapid communications in mass spectrometry</i>, 2009, 23, 3603-3607 (IF
24.	 K. Shrivas, H. F. Wu, Quantum dots laser desorption/ionization MS: multifunctional CdSe quantum dots as the matrix, concentrating probes and acceleration for microwave enzymatic digestion for peptide analysis and high resolution detection of proteins in a linear MALDI-TOF MS, <i>Proteomics</i>, 2009, 9, 2656-2667. (IF 4.586). K. Shrivas, S. K. Kailasa, H. F. Wu, Quantum dots-electrospray ionization mass spectrometry: 3-mercaptopropanic acid capped CdS quantum dots as accelerating and enrichment probes for microwave tryptic digestion of proteins, <i>Rapid communications in mass spectrometry</i>, 2009, 23, 3603-3607 (IF 2.695) K. Shrivas*, K. Agrawal, N. Harmukh, Trace level determination of molybdenum in environmental and biological samples using surfactant-
24.	 K. Shrivas, H. F. Wu, Quantum dots laser desorption/ionization MS: multifunctional CdSe quantum dots as the matrix, concentrating probes and acceleration for microwave enzymatic digestion for peptide analysis and high resolution detection of proteins in a linear MALDI-TOF MS, <i>Proteomics</i>, 2009, 9, 2656-2667. (IF 4.586). K. Shrivas, S. K. Kailasa, H. F. Wu, Quantum dots-electrospray ionization mass spectrometry: 3-mercaptopropanic acid capped CdS quantum dots as accelerating and enrichment probes for microwave tryptic digestion of proteins, <i>Rapid communications in mass spectrometry</i>, 2009, 23, 3603-3607 (IF 2.695) K. Shrivas*, K. Agrawal, N. Harmukh, Trace level determination of

K. Agrawal, K. S. Patel, **K. Shrivas**, V. K. Jain, F. Khan, On-site determination

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	of tin in geological and water samples using novel organic reagent with iodide,
	Journal of Hazardous materials, 2009, 164, 95-98. (IF 6.065)
21.	K. Agrawal, K. S. Patel, K. Shrivas, Development of surfactant assisted
	spectrophotometric method for determination of selenium in waste water
	samples, Journal of Hazardous materials, 2009, 161, 1245-1249. (IF 6.065)
	<u>2008</u>
20.	K. Shrivas, H. F. Wu, Modified silver nanoparticle as a hydrophobic affinity
	probe for rapid analysis of peptides and proteins in biological samples by
	using liquid-liquid microextraction coupled to AP-MALDI/ ion trap and
	MALDI/TOF Mass Spectrometry, Analytical Chemistry, 2008, 80, 2583-2589.
	(IF 5.411).
19.	K. Shrivas, H. F. Wu, Applications of silver nanoparticles capped with
	different functional groups as the matrix and affinity probes in surface-
	assisted laser desorption/ionization time-of-flight and atmospheric pressure
	matrix-assisted laser desorption/ionization ion trap mass spectrometry for
	rapid analysis of sulfur drugs and biothiols in human urine, Rapid
	communications in mass spectrometry, 2008, 22, 2863-2872. (IF 2.695)
18.	K. Shrivas, H. F. Wu, Oxidized multiwalled carbon nanotubes for quantitative
18.	K. Shrivas , H. F. Wu, Oxidized multiwalled carbon nanotubes for quantitative determination of cationic surfactants in water samples using atmospheric
18.	determination of cationic surfactants in water samples using atmospheric pressure matrix-assisted laser desorption/ionization mass spectrometry,
18.	determination of cationic surfactants in water samples using atmospheric
18.	determination of cationic surfactants in water samples using atmospheric pressure matrix-assisted laser desorption/ionization mass spectrometry,
	determination of cationic surfactants in water samples using atmospheric pressure matrix-assisted laser desorption/ionization mass spectrometry, <i>Analytica Chimica Acta</i> , 2008, 628, 198-203. (IF 4.950). K. Shrivas , H. F. Wu, Ultrasonic followed single drop microextraction combined with gas chromatography -mass spectrometry to study
	determination of cationic surfactants in water samples using atmospheric pressure matrix-assisted laser desorption/ionization mass spectrometry, <i>Analytica Chimica Acta</i> , 2008, 628, 198-203. (IF 4.950). K. Shrivas , H. F. Wu, Ultrasonic followed single drop microextraction combined with gas chromatography -mass spectrometry to study organochlorine pesticides from fish, <i>Journal of Separation Science</i> , 2008, 31,
17.	determination of cationic surfactants in water samples using atmospheric pressure matrix-assisted laser desorption/ionization mass spectrometry, <i>Analytica Chimica Acta</i> , 2008, 628, 198-203. (IF 4.950). K. Shrivas , H. F. Wu, Ultrasonic followed single drop microextraction combined with gas chromatography -mass spectrometry to study organochlorine pesticides from fish, <i>Journal of Separation Science</i> , 2008, 31, 380-386. (IF 2.557)
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17.	determination of cationic surfactants in water samples using atmospheric pressure matrix-assisted laser desorption/ionization mass spectrometry, <i>Analytica Chimica Acta</i> , 2008, 628, 198-203. (IF 4.950). K. Shrivas , H. F. Wu, Ultrasonic followed single drop microextraction combined with gas chromatography -mass spectrometry to study organochlorine pesticides from fish, <i>Journal of Separation Science</i> , 2008, 31, 380-386. (IF 2.557) K. Agrawal, H. F. Wu, K. Shrivas , Reverse micellar microextraction for rapid analysis of thiol-containing peptides and amino acids by AP-MALDI/ion trap
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	atmospheric pressure matrix-assisted laser desorption/ionization mass
	spectrometry and comparison with gold electrostatic probes and silver
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	determination of antimony in water, soil and dust samples of Central India,
	Journal of Hazardous materials, 2008, 155, 173-178. (IF 6.065)
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12.	K. Shrivas, H. F. Wu, A rapid, sensitive and effective quantitative method for
	simultaneous determination of cationic surfactant mixtures from river and
	municipal waste water by direct combination of single drop microextraction
	with AP-MALDI mass spectrometry, Journal of Mass Spectrometry, 2007, 42,
	1637-1644. (IF 2.422)
11.	K. Shrivas, H. F. Wu, Single drop microextraction as a concentrating probe for
	rapid screening of low molecular weight drugs from human urine, Rapid
	communications in mass spectrometry, 2007, 21, 3103-3108. (IF 2.695)
10.	K. Shrivas, H. F. Wu, Rapid determination of caffeine in one drop of beverages
	and foods using drop-to-drop solvent microextraction with gas
	chromatography/mass spectrometry, Journal chromatography A 2007, 1170,
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9.	K. Shrivas, H. F. Wu, Quantitative bioanalysis of quinine by atmospheric
	pressure matrix assisted laser desorption/ionization mass spectrometry with
	dynamic drop-to-drop solvent microextraction, Analytica Chimica Acta, 2007,
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	<u>2006</u>
8.	K. S. Patel, K. Shrivas , P. Hoffmann and N. Jakubowski, A survey of lead
	pollution in central India, Environmental Geochemistry and Health, 2006, 28
	(1), 11-17 (IF 2.616).
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7.	K. Shrivas*, K. Agrawal, D. K. Patel, A spectrophotometric determination of
	ascorbic acid, Journal of the Chinese Chemical Societyy, 2005, 52, 503-506 (IF
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- 6. A. Shukla, S. Sharma, **K. Shrivas**, K. S. Patel and P. Hoffmann, Spectrophotometric determination of phenol in industrial and municipal wastewater, *Chemia Analityczna*, 2005, 50, 1-8 (IF 0.428).
- 5. K. S. Patel, **K. Shrivas**, R. Brandt, N. Jokubowski, W. Corns, Arsenic contamination in water, soil and sediment of Central India, *Environmental Geochemistry and Health*, 2005, 27, 131-145 (IF 2.616).

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- 4. **K. Shrivas**, K. S. Patel and P. Hoffmann, Flow injection analysis determination of palladium, *Analytical Letters*, 2004, 37, 507-516 (IF-1.150).
- 3. **K. Shrivas**, K. S. Patel, On site determination of arsenic in contaminated water samples, *Analytical Letters*, 2004,, 37, 333-344 (IF-1.150).
- 2. K. S. Patel, **K. Shrivas**, P. C. Sharma, M. R. Pandey and P. Hoffmann, Simple and selective method for separation and determination of platinum, *Analytical Letters*, 2004, 37, 1977-1987 (IF-1.150).
- 1. K. Agrawal, G. Agnihotri, **K. Shrivas**, G. L. Mundhara, K. S. Patel and P. Hoffmann, Determination of cationic surfactants in environmental samples by flow injection analysis, *Microchimica Acta*, 2004, Vol.147, 273-278. (IF-4.580)

10. Research Papers Published in International Proceedings:-

- K. S. Patel, A. Verma, N. K. Jaiswal, B. L. Sahu, K. Shrivas, A. Raab, J. Feldmann, L. Borgese, A. Gianoncelli, E. Bontempi, M. Lautent, P. Bhattacharya, Arsenic concentration in soil, rice and straw in central India, 4th International Congress on Arsenic in the Environment, As2012, Cairns, Taylor & Froncis Group, 2012. 508-509.
- 2. K. S. Patel, **K. Shrivas**, A. Verma, R. Baghel, W. Corns, B. Chen, B. Blazhev, Arsenic exposure and skin lesions in Central India, Arsenic in Geosphere and Human diseases, Arsenic 2010: Proceedings of the Third International Congress on Arsenic in the Environment, CRC Press, 2010, 264.
- 3. **K. Shrivas**, gold nanoparticles-based chemical sensor for on-site colorimetric detection of arsenic in water samples, arsenic Research and Global Sustainability: Proceeding of the Sixth International Congress on Arsenic in the Environment (AS2016), June 19-23, 2016, Stockholm, Sweden, CRC press.

11. Book Chapters Published:

- 1. **K. Shrivas,** A. Ghosale, P. Maji, Advanced Nanomaterials for the Removal of Chemical Substances and Microbes From Contaminated and Waste Water, Chapter-6, IGI Global book series Advances in Environmental Engineering and Green Technologies (AEEGT), Hershey PA, 2017, 2, 127-161.
- 2. **K. Shrivas**, T. Hayasaka, M. Setou, Microscopy: Science, Technology, Applications and Education: Mass microscope for MALDI molecular imaging in biological tissue sections, Microscopy Science, Technology, Applications and Education, Formatex Research Center, Spain, 2010, 2, 1008-1016.
- S. Hameed, Y. Sugiura, Y. Kimura, K. Shrivas, M. Setou, Nanomedicine and the Nervous System: Nanoparticle-assisted laser desorption/ionization (nano-PALDI)based imaging mass spectrometry (IMS) and its application to the brain sciences (Chapter 6), Science Publishers, U.S. Kings College London, 2012, 97-118.
- 4. **K. Shrivas,** M. Setou, Imaging mass spectroscopy instrumentation and applications (Chapter 4), Advances in Imaging and Electron Physics, Elsevier Science, 2012, 171, 145-193.

12. Research Supervisions:-

(a) Ph.D. students

S. No.	Name of students	Ph. D. Topic	Funding
1.	Archana Ghosale	Synthesis and characterization of conductive nanoparticles	Rajeev Gandhi fellowship UGC
2.	Tushar Sahu		JRF-CSIR
3.	Tarun Patel		JRF- CSIR

(b) Master students for research project

S. No.	Name of students	Project Topic	Year
1.	Bharat Lal Dewangan	Starch capped AgNPs for colorimetric sensor for detection of iodide in food samples	2016
2.	S. K. Firoj	Synthesis of gold nanoparticles and application for colorimetric detection of cysteine	2016
3.	Md. Khurshid Ansari	Graphene oxide magnetic nanoparticles for removal of chromium	2016

4.	Poonam	Removal of alizarin using grapheme oxide	2016
	Vishwakarma	magnetic nanoparticles	
5.	Deepika Patel	Removal of arsenic from drinking water	2016
	-	using nanomaterials	
6.	Bharti Patel	Removal of fluoride from drinking water	2016
		using nanomaterials	
7.	Navneeta Bharti	AuNPs for detection of Ba(II) and Ni(II) in	2015
		environmental water samples	
8.	Jharna Sahu	AgNPs as a colorimetric sensor for rapid	2015
		quantitative detection of amoxicillin in	
		biological samples	
9.	Uma Shankar	A simple and rapid spectrohphotometric	2014
		determination of strontium by starch	
		capped AuNPs	
10.	Nikihilesh	AuNPs modified with lauryl sulphate for	2014
	Jambulkar	simultaneous detection of Al ³⁺ and Hg ²⁺	

13. National and International Conferences Attended:-

30.	K. Shrivas, Development of Low Cost Paper-Based Electrochemical Sensors,
	National conference, Innovations in Chemistry & Environmental Engineering,
	April 29, 2019, National Institute of Technology , Raipur
29.	K. Shrivas, UGC-SAP (DRS-II), 3nd National Conference on Advances in
	Environmental and Chemical Sciences, 27-28 March, 2019, School of Studies
	in Chemistry, Pt. Ravishankar Shukla University, Raipur, CG
28.	K. Shrivas, One day conference, Recent advances in functional
	nanomaterials, Program of S. N. Bose National Centre for basic sciences,
	Kolkata, 28th Septemeber, 2018, Pt. Ravishankar Shukla University, Raipur,
	CG
27.	K. Shrivas, Printed electronics and chemical sensors with nano-ink (Invited
	talk), National Conference on Disruptive Technologies, 20-21st April, 2018,
	Chhatrapati Shivaji Institute of Technology, Durg, CG

- 26. **K. Shrivas,** Low cost paper based electrode for electrochemical determination of hydrogen peroxide (Poster Presentation), UGC-SAP (DRS-II), 2nd National Conference on Advances in Environmental and Chemical Sciences, 22-23 March, 2018, School of Studies in Chemistry, Pt. Ravishankar Shukla University, Raipur, CG
- 25. **K. Shrivas,** A. Ghosale, M. K. Deb, I. Karbhal, V. Ganesan, Low cost screen-printed glass electrode with silver nano-ink for cyclic voltammetric determination of H₂O₂ (Poster Presentation),, 22nd CRSI National Symposium in Chemistry, 2-4 Feb., 2018, Pt. Ravishankar Shukla University, Raipur, CG
- 24. **K. Shrivas**, Direct-writing of Low cost paper electrode with silver nano-ink for detection of H₂O₂ using cyclic voltammetry, National Seminar on Recent Developments in Chemical Sciences, RDCS-2018, 23-24 Feb. 2018, IGNTU, Amarkantak, MP.
- 23. **K. Shrivas,** Surface characterization with electron spectroscopy, National level short term training programme on Recent trends in material science and nano-technology, 3-7th October, 2017, National Institute of Technology, Raipur, CG
- 22. **K. Shrivas,** UV-Vis Spectrophotometer: Basic instrumentation and applications, Skill development training on material characterization techniques, 16-17 Feb. 2017, Guru Ghasidas Vishawavidylaya, Bilaspur
- 21. **K. Shrivas**, Matrix-assisted Laser Desorption/Ionization Mass Spectrometric Imaging of Biomolecules in Tissue Samples, National Seminar, Incovations and Entrepreneurship in Biotechnology, 26-27th December, 2016, Department of Biotechnology, Guru Ghasidas Vishwavidyalya, Bilaspur, CG.
- 20. **K. Shrivas**, N. Nirmalkar, Silver nanoparticles as a chemical sensor for detection of environmental water samples based on stereoselective endorecognition, National Seminar, 29 December, 2016, Deprtment of Chemistry, DLS college, Bilaspur, CG.
- 19. **K. Shrivas**, Localized Surface Plasmonic Sensor of Silver Nanoparticles for Highly Selective Detection of Triazophos Pesticide in Food Samples, Indian Science Congress, 104th Indian Science Congress, 3-7 January, 2017, SRV University, Tirupati, AP.

- 18. **K. Shrivas**, Oleylamine capped silver nanoparticles based paper electrodes for electroanalytical applications, International conference on recent advances in Analytical Sciences (RAAS), April, 07-09, 2016. Indian society of analytical scientists, Varanasi, UP.
- 17. **K. Shrivas,** Mass spectrometry and its application in biological, chemical and material sciences (Invited lecture), One week short term training programme on advances in analytical techniques in chemistry and material science, 8-12 February, 2016, Department of chemistry, National Institute of Technology, Raipur, Chhattsigarh.
- 16. **K. Shrivas,** Silver nanoparticles as a colorimetric sensor for the detection of endrin (Oral Presentation), National Research Seminar on degradation parameters due to rapid industrialization in Chhattisgarh State and its impact on human health and environmental conditions, 18-19 January, 2016, TCL Govt., PG College, Janjagir, Chhattisgarh.
- 15. **K. Shrivas** and Nidhi Nirmalkar, Silver nanoparticles as a selective colorimetric probe for sensitive detection of endrin in water sample based on endo-recognition through a high electron density of oxygen to silver (O....Ag), Dec. 28-30, 2015, 52nd Annual Convention of Chemist 2015, JECRC University, Rajasthan.
- 14. **K. Shrivas**, Rapid Monitoring of Cationic Surfactants in Municipal Waste and Surface Water using Gold Nanoparticles as a Colorimetric Sensor (Poster presentation), BRNS-AEACI symposium on currents trends in analytical chemistry, May, 26-29th, 2015, Analytical Chemistry Division, Bhabha Atomic Research Center, Mumbai.
- 13. **K. Shrivas,** Silver nanoparticles as a colorimetric sensor for rapid quantitative determination of amoxicillin drug in biological samples (poster presentation), National Seminar on: "Ethnomedicine and New Drug Discovery: Opportunities and Challenges", April, 10-11, 2015, SLT institute of pharmaceutical sciences, GGV, Bilaspur
 - **K. Shrivas**, Gold nanoparticles as a colorimetric sensor for rapid monitoring of cationic surfactants in domestic effluent and surface water samples (Oral presentation), One day national seminar on advances in synthesis and characterization of materials for technological applications, March 30, 2015, Department of Pure and Applied Physics, GGV, Bilaspur, CG.

- 12. **K. Shrivas**, Nanoparticles as matrix and affinity probes for the analysis of low molecular weight biomolecules in MALDI-MS, **oral presentation**, Two Days National Workshop on Particle Accelerator for Interdisciplinary Research, February 18-19, 2014, Department of Pure and Applied Physics, GGV, Bilaspur, CG.
- 17. **K. Shrivas**, Modern Instrumental Techniques for Monitoring and Analysis of Environmental Pollutants, **invited talk**, Short Term Course on Technical Launching on Environmental Issues, June 26-30, 2013, Department of Biotechnology, NIT, Raipur, CG.
- 11. **K. Shrivas**, Imaging and Identification of Biomolecules in Tissue Samples using Imaging Mass Spectrometry, **oral presentation** at UGC sponsored National seminar in Chemistry on "Chemistry In Our Lives" on 1st & 2nd February 2013, Bilaspur, CG.
- 10. **K. Shrivas**, Nanoparticles as matrix and affinity probes: Direct analysis of biomolecules in MALDI- mass spectrometry, **poster presentation**, National Seminar on recent trends in chemical research": Challenges ahead, March 30-31, 2012, Department of Chemistry, GGV, Bilaspur, CG, (PP-21).
- 9. **K. Shrivas**, Mitsutoshi Setou, Imaging of phospholipids in food samples of soybean and peanut seeds using MALDI- mass spectrometry, **Poster presentation**, National Seminar on plant biology and its role in sustainable food and energy production, March 17-18, 2012, Department of Botany, GGV, Bilaspur, CG, (P-54).
- 8. **K. Shrivas**, Mitustoshi Setou, S. K. Jain, MALDI-MS imaging of low molecular weight biomolecules in mouse brain using TiO2 nanoparticles, **Poster presentation**, National seminar on standardization of herbal formulations: A holistic goal, February 25-26, 2012, SLT Institute of Pharmacy, GGV, Bilaspur, CG,.
- 7. **K. Shrivas**, Mitsutoshi Setou, Imaging of biomolecules in tissue samples using matrix-assisted laser desorption/ionization mass spectrometry, **Invited talk**, International conference on omics meets diseases and IIIrd annual meeting of proteomics society (India), December 15-18, 2011, Kolakata, WB, (SP-5).

Desorption/Ionization Mass Spectrometry for Imaging of Phospholipids in Mouse Liver and Cerebellum Tissue Sections, Poster presentation, 58th Annual conference on mass spectrometry, June 16-18, 2010, Tsukuba, K. Shrivas, Mitsutoshi Setou, Enhanced Visualization of Phospholipids in 5. Animal and Plant Tissue Sections by Using Ionic Liquid Matrixes in MALDI Mass Spectrometry, Poster presentation, 58th ASMS conference on mass spectrometry, May 23-27, 2010, Salt Lake City, Utah, USA. K. Shrivas, 3rd Arsenic contamination in rice of Chhattisgarh, Chhattisgarh 4. young scientist congress, **Oral presentation**, Raipur (CG), India, 28th February-1st March, 2005, CHE - 114. **K. Shrivas**, Detection of arsenic in dust, 8th international global atmospheric 3. chemistry conference, Poster presentation, Christchurch, New Zealand, 4 - 9 Sept. 2004. Kamlesh Shrivas, Flow injection analysis of palladium, 1st Chhattisgarh 2. young scientist congress, Raipur (CG), India, 2 – 3 Sept., 2002, CHE - 4. K. Shrivas, Kavita Agrawal, On-line monitoring of chemical oxygen demand, 1. Oral presentation, National seminar on science technology & water problems and solution for Chhattisgarh, Raipur (CG), India, 29-30 April, 2002.

Setou,

Ionic Liquid

Matrix-Assisted

6.

Shrivas,

Mitustoshi

14. Training/Workshops:-

5.	
4.	STEM, Teacher Training Workshop on Research Based Pedagogical Tools, 6-9th
	Oct., 2017, Pt. Ravishankar Shukla University, Raipur, CG
3.	Refresher Course, organized by HRDC- Guru Ghasidas Vishwavidyalaya,
	Bilaspur, May-1 to 21 may, 2015
2.	Orientation Program, organized by UGC-Academic Staff College, Guru Ghasidas
	Vishwavidyalaya, Bilaspur, November- 10 to December 06, 2014
1.	"Clinical Proteomics and Biomarker Discovery" workshop at the NIH campus on
	Monday, June 22 – 26, 2009, Foundation for Advanced Education in the
	Sciences, National Institute of Health, Bethesda, USA