DR. KAMLESH KUMAR SHRIVAS, M.Sc. & Ph.D. (Chemistry)
Assistant Professor, Department of Chemistry
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Experience:

Assistant Professor, Department of Chemistry, Guru Ghasidas University (2011 to present)
Postdoctoral fellow, Hamamatsu University School of Medicine, JAPAN (2009-2011)
Postdoctoral fellow, Food Drug and Administration, USA (2008-2009)
Postdoctoral fellow, National Sun Yat-Sen Yat University, TAIWAN (2006-2008)
Quality control officer, Gharda Chemicals Ltd, MH (2005-2006)
Senior research and Associate fellow, Pt RS University, Raipur, CG (2003-2005)
Research assistant, Pt RS University, Raipur, CG 2000-2002)

Award/Fellowship:-

- Japanese Society for the Promotion of Science (JSPS) Fellowship, JAPAN
- Oak Ridge Institute of Science and Education (ORISE) Fellowship, FDA, USA
- National Council of Science (NSC) Fellowship, TAIWAN
- SR and RA Fellowship, CSIR, DELHI

Research interest:-

- Synthesis and characterization of nanoparticles for applications in MALDI mass spectrometry for imaging and identification of proteins/peptides, lipids, drugs and toxicants.
- Analytical method development for analysis of proteins/peptides, drugs and toxicants by using MALDI-MS, ESI-MS, LC-MS, GC-MS in biological, environmental and pharmaceutical samples.
- New liquid-phase and solid-phase microextraction method development for the analysis of biomolecules, drugs and toxicants.
- Environmental pollution for trace metals analysis using ICP-AES, AAS, HG-AAS, XFS, FIA, and Spectrophotometer.

Membership/Recognitions:

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

Book published:

1. **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, 2010, 2, 1008-1016.**

Selected Publications: -

1. **K. Shrivas**, Takahiro Hayasaka, Yuki Sugiura, Mitsutoshi Setou, Method for simultaneously imaging of low molecular metabolites in mouse brain using TiO_2 nanoparticles in Nano-particle assisted laser desorption/ionization mass spectrometry. ***Analytical Chemistry***, **2011** (In Press).
2. **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.
3. **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.
4. **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, 1452-1460**.**
5. 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**.**
6. **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, ***Proteomics***, **2009**, 9, 2656-2667.
7. **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, ***Rapid communications in mass spectrometry***, **2009**, 23, 3603-3607.
8. **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.
9. **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.
10. **K. Shrivas**, H. F. Wu, Oxidized multiwalled carbon nanotubes for quantitative determination of cationic surfactants in water samples using atmospheric pressure matrix-assisted laser desorption/ionization mass spectrometry, ***Analytica Chimica Acta***, **2008**, 628, 198-203.
11. **K. Shrivas**, H. F. Wu, Rapid ultrasonic extraction followed single drop microextraction combined with gas chromatography -mass spectrometry to study organochlorine pesticides from fish, ***Journal of Separation Science***, **2008,** 31, 380-386.

12. **K. Shrivas**, H. F. Wu, Functionalized-multiwalled carbon nanotubes as a preconcentrating probe for rapid monitoring of cationic dyestuffs in environmental water using AP-MALDI/MS, ***Journal of Separation Science***, **2008**, 31, 3603-3611.
13. P. R. Sudhir, **K. Shrivas**, Z. C. Zhou, H. F. Wu, Single drop microextraction using silver nanoparticles as electrostatic probes for peptide analysis in atmospheric pressure matrix-assisted laser desorption/ionization mass spectrometry and comparison with gold electrostatic probes and silver hydrophobic probes. ***Rapid communications in mass spectrometry,*** **2008**, 22, 3076-3086.
14. **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.
15. **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).**
16. **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, 9-14.
17. **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**, 605, 153-158.

Research Papers Presented at International Conferences:-

1. Ionic Liquid Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry for Imaging of Phospholipids in Mouse Liver and Cerebellum Tissue Sections, 58th Annual conference on mass spectrometry, June 16-18, **2010**, Tsukuba, **Japan**.
2. Enhanced Visualization of Phospholipids in Animal and Plant Tissue Sections by Using Ionic Liquid Matrixes in MALDI Mass Spectrometry, 58th ASMS conference on mass spectrometry, May 23-27, 2010, Salt Lake City, Utah, **USA**.