



Curriculum Vitae

Name	Dr. Nazim Hasan
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Date of Birth	July 01, 1983
Marital Status	Married
Nationality	INDIAN

Academic Qualifications:

- **Ph.D. (Awarded, 10 January-2013)** Synthesis, fabrication and characterisation of oxide nanoparticles and metal surfaces for biomolecules and bacterial detection, Deptt. of Chemistry (Analytical division), National Sun Yat -sen University, Kaohsiung, Taiwan.
- **M.Sc. (Master of Science) Material Chemistry:** 2005, Jamia Millia Islamia (Central University), New Delhi, INDIA.
- **B.Sc (Bachelor of Science) Chemistry honour,** 2003, Jamia Millia Islamia (Central University), New Delhi, INDIA.
- **Senior Secondary (10+2) Physics, Chemistry, Mathematics,** 2000, Utter Pradesh board Allahabad, India.

Other Qualifications:

- ▶ **Post Graduate Diploma in Chemical Analysis and Quality Management (PGDCAQM), 2006, First division,** University of Hyderabad (Central University), Hyderabad, INDIA.
- ▶ **Diploma in Computer Application (DCA), Grade B+, 2003,** Sterlite Foundation (Okhla, New Delhi), Mumbai, India.
- ▶ **Chinese Language Certificate,** Mandarin Program for International Students.

Technical Skills:

- Matrix assisted laser desorption/ionization time of flight mass spectrometry (MALDI-TOF MS)

- Flex analysis, Flex control, flex imagine, CliPro Tools, Bio tool, Biotyper, Polytools and TLC MALDI MS software
- Electro spray Ionization (ESI) mass spectrometry (MS) and related software
- ICP-MS and quantitative and qualitative analysis
- Transmission electron microscopy (TEM) and SEM with EDAX
- FT-IR, NMR, UV and florescence spectroscopy techniques
- X-ray Diffraction (XRD)

Research Abilities and Interests:

- Synthesis of various nanoparticles (TiO₂, NiO, ZnO, Fe₃O₄, Pt etc) and their functionality with organic moieties
- Different pathogenic bacterial culture and handling for nanoparticle applications.
- Neuro 2A cancer cell line culture and storage, cell counting by haemocytometer.
- Synthesis of nanostructures and nanoscale engineering of materials for biological applications and mechanism explorations.
- Proteins tryptic digestion and nanoparticles based interaction analysis.
- Synthesis of polymer stabilized metal nanoparticles and toxicological effect on bacteria and cancer cells.
- Organic synthesis, polymerization reaction and characterization by various spectroscopic techniques like FTIR, NMR, UV and phosphorescence and fluorescence spectroscopy.

Academic and Research Experience:

- **Assistant Professor** currently teaching in Faculty of engineering as 206 based syllabuses, Department of Chemistry, Faculty of Engineering, Jazan University, Jazan. KSA.
- **Assistant Professor** (9 September-2013 to till now), Teaching organic chemistry as 109 syllabus, Department of Chemistry, Faculty of Science, Jazan University, Jazan. KSA.
- **Senior research fellow (2008-2013)** at department of chemistry (Analytical division), National Sun Yat-sen University, Kaohsiung, TAIWAN.
- **Research fellow (2006-2008)** under Union Grant Commission (UGC), department of Chemistry (Material Chemistry), Jamia Millia Islamia (Central University) New Delhi, INDIA.
- MSc dissertation on '**Nano conducting Polymers**', department of Chemistry (Material Chemistry), Jamia Millia Islamia (Central University), New Delhi, INDIA.

Current research project:

Project No.: JUP7//00084 (working as *Principal Investigator (PI)*).

Project Entitle: Bio-synthesis of zero-valent iron nanoparticles for MO dye degradation and antimicrobial applications.

Project acceptance agency: Deanship of Scientific Research (DSR), Jazan University, Jizan, KSA.

Books:

- **Book chapter entitled** 'Applications of carbon nanomaterials in biosensing and cellular imaging' Grumezescu, 2016, 8, 339-364, Chapter: 11. Suresh K. Kailasa, Vaibhavkumar N. Mehta, **Nazim Hasan** and Hui-Fen Wu.
- **Book chapter entitled** 'Fluorescent Carbon Dots for Bioimaging' Advanced Bioelectronic Materials, 2015, 215-228, S. K. Kailasa, V. N. Mehta, **Nazim Hasan** and H. F Wu.

Patents accepted/applied:

1. Hui-Fen Wu, Suresh Kailasa, **Nazim Hasan**,
Apparatus and method of liquid nitrogen assisted spray ionization mass spectrometry. No.101129644 (Applied-101/8/16 till 103/10/28 Issued), Taiwan, ROC, **Patent issued.**
2. Hui-Fen Wu, Muthu Manikandan, **Nazim Hasan**,
Platinum nanoparticles for treatment of cancer, No.102137386 (Applied-102/10/16 till 104/7/20 issued), Taiwan, ROC, **Patent issued**
3. Hui-Fen Wu, Judy Gopal, **Nazim Hasan**, Muthu Manikandan,
Size dependant bacterio-toxicity/compatibility of Platinum nanospheres, nanocuboids and nanoflowers, Taiwan Patent applied/revised, 2013, Jan. No.: 101081TW.
4. Hui-Fen Wu, Judy Gopal, **Nazim Hasan**,
Fabrication of titanium based MALDI-biochip for rapid, sensitive and direct analysis of pathogenic bacteria. Taiwan, ROC, Patent applied, 2012, April, revised.

Best Paper Awards:

- **Distinguish Paper award by Association of Chemical Sensor in Taiwan for** '*Platinum nanoparticles for photothermal treatment of neuro 2A cancer cells*' **June, 2014.**

List of Publications:

1. **Biosynthesis of iron nanoparticles using Trigonella foenum-graecum seed extracts for photocatalytic methyl orange dye degradation and antibacterial applications.** Ibrahim Ali Radin, **Nazim Hasan**, Maqsood Ahmad Malik, Zaheer Khan.(Journal of Photochemistry & Photobiology, B: Biology 183 (2018) 154–163 (IF 3.21))
2. **Biofabrication of Fe nanoparticles in aqueous extract of Hibiscus sabdariffa with enhanced photocatalytic activities.** Abdulmohsen Alshehri, Maqsood Ahmad Malik,

- Zaheer Khan, Shaeel Ahmed Al-Thabaitia and **Nazim Hasan**. (*RSC Adv.*, 2017, 7, 25149-25159 (**IF 3.11**)).
3. **Unprecedented nitrate adsorption efficiency of carbon-silicon nano composites prepared from bamboo leaves**. Manikandan Muthu, D. Ramachandran, **Nazim Hasan**, M. Jeevanandam, Judy Gopal, Sechul Chun. (*Material Chemistry and Physics*, 2017, 189, 12-21 (**IF 2.1**)).
 4. **Large protein analysis of Staphylococcus aureus and Escherichia coli by MALDI TOF mass spectrometry using amoxicillin functionalized magnetic nanoparticles**. **Nazim Hasan**, Zhongxian Guo and Hui-Fen Wu. (*Analytical and Bioanalytical Chemistry*, 2016 408 (23), 6269-6281(**IF 3.4**)).
 5. **CoFe₂O₄-ZnO nanoparticles for rapid microwave-assisted tryptic digestion of phosphoprotein and phosphopeptide analysis by matrix-assisted laser desorption/ionization mass spectrometry**. Moh Imtiaz Nawaz, **Nazim Hasan**, Hui-Fen Wu, (*Rapid Communication in Mass* 2016, 30, 1443-1453. (**IF 2.253**)).
 6. **Biological Desorption Electrospray Ionization Mass Spectrometry (DESI MS) – unequivocal role of crucial ionization factors, solvent system and substrates**. Muthu Manikandan · Zakayo Kazibwe · **Nazim Hasan** · Anbarasu Deenadayalan · Judy Gopal · Thalappil Pradeep · Sechul Chun, (*TrAC Trends in Analytical Chemistry*, 2016, 78,109-119 (**IF 6.472**)).
 7. **MALDI mass spectrometry for probing the anti- Staphylococcal capability of TiO₂ nanoparticles via near-UV and laser irradiation**. Judy Gopal, Jararn LN, **Nazim Hasan**, Hui-Fen Wu, (*New Journal of Chemistry*, 2015, 39, 4909-4918.(**IF 3.159**))
 8. **Surface pretreatment effects on titanium chips for the adhesion of pathogenic bacteria in the MALDI-TOF MS**. **Nazim Hasan**, Judy Gopal, Hui-Fen Wu (*Applied Surface Science*, 30 September, 2014, 314, 52-63. (**IF 2.112/5Y:2.099**)).
 9. **A nano-patterned self assembled monolayer (SAM) rutile titania cancer chip for rapid, low cost, highly sensitive, direct cancer analysis in MALDI-MS**. Muthu Manikandan, Judy Gopal, **Nazim Hasan**, Hui Fen Wu. (*Talanta*, 2014, 130, 78-89, (**IF 3.511/5Y:3.756**)).
 10. **Platinum nanoparticles for the photothermal treatment of Neuro 2A cancer cells**. Muthu Manikandan, **Nazim Hasan** and Hui Fen Wu (*Biomaterials*, 2013, 34(23), 5833-5842, (**IF 8.415**)).
 11. **Insights into the size dependant bacterio-toxicity/compatibility of Platinum nanospheres, nanocuboids and nanoflowers**. Judy Gopal, **Nazim Hasan**, Muthu Manikandan and Hui Fen Wu. (*Scientific Report, Nature publishing group*, 2013, 3, 1260, DOI:10.1038/srep01260.(**IF 5.078**)).
 12. **A comparative study on the mode of interaction of different nanoparticles during MALDI-MS of bacterial cells**. Judy Gopal, Muthu Manikandan, **Nazim Hasan** and Hui Fen Wu, (*Journal of Mass Spectrometry*, 2013, 48(1), 119-127, (**IF3.289**)).
 13. **Rapid detection of haloarchaeal carotenoid via liquid liquid microextraction enabled direct TLC MALDI-MS**. Muthu Manikandan, **Nazim Hasan** and Hui Fen Wu (*Talanta*, 2013,107, 167-175, (IF3.794, 12/73, 16.44%, *Chemistry, Analytical*)).

14. **Monitoring the heat stress response of *Escherichia coli* via NiO nanoparticle assisted MALDI mass spectrometry.** Nazim Hasan, Faheem Ahmad and Hui Fen Wu (*Talanta*, 2013, 103, 38-46, (IF3.794, 12/73, 16.44%, Chemistry, Analytical)).
 15. **Quantum dot applications endowing novelty to analytical proteomics.** Hui-Fen Wu, Judy Gopal, H. N. Abdelhamid and Nazim Hasan. (*Proteomic*, 2012, 12(19-20), 2949-61, (IF4.505, 14/72, 19.44%, Biochemical research methods, Invited review article)).
 16. **Rapid and direct detection of attomole adenosine triphosphate (ATP) by MALDI MS using rutile titania chips.** Muthu Manikandan, Nazim Hasan and Hui-Fen Wu (*Analyst*, 2012, 137, 5128-5134, (IF 4.23, 8/73, 10.96%)).
 17. **Fabrication of titanium based MALDI-biochip for rapid, sensitive and direct analysis of pathogenic bacteria.** Judy Gopal, Nazim Hasan and Hui Fen Wu. (*Biosensors and Bioelectronics*, 2013, 39, 57-63, (IF 6.451, 1/26, 3.85%, Electrochemistry, 4/73, 5.48%, Chemistry, Analytical)).
 18. **Identification of multiply charged proteins and amino acid clusters by liquid nitrogen assisted spray ionization mass spectrometry.** Suresh Kumar Kailasa, Nazim Hasan and Hui Fen Wu. (*Talanta*, 2012, 97, 539-549, (IF 3.794, 12/73, 16.44%, Chemistry, Analytical)).
 19. **Cell population based mass spectrometry using platinum nanodots for algal and fungal studies.** Muthu Manikandan, Hui-Fen Wu and Nazim Hasan (*Biosensor and Bioelectronics*, 2012, 35, 493-497, (IF 5.602, 1/26, 3.85%, Electrochemistry, 4/73, 5.48%, Chemistry, Analytical)).
 20. **Rapid, sensitive and direct analysis of exopolysaccharides from biofilm on aluminium surfaces exposed to sea water using MALDI-TOF MS.** Nazim Hasan, Judy Gopal and Hui Fen Wu (*Journal of Mass spectrometry*, 46, 1160-1167, 2011, (IF 3.289, 8/42, 19.05%, Spectroscopy)).
 21. **Highly selective and sensitive enrichment of phosphopeptides via NiO nanoparticles using microwave assisted centrifugation - on particles ionization /enrichment (CF-OPIE) approach in MALDI-MS,** Nazim Hasan and Hui Fen Wu, (*Analytical and Bioanalytical Chemistry*, 2011, 3451-3462, (IF 3.841, 9/73, 12.33%, Chemistry, Analytical)).
 22. **Two-step on particle ionization/enrichment via a washing and separation-free approach: multifunctional TiO₂ nanoparticles as desalting, accelerating, and affinity probes for microwave-assisted tryptic digestion of phosphoproteins in ESI-MS and MALDI-MS: comparison with microscale TiO₂.** Nazim Hasan, Hui Fen Wu, Yi-Hsien Li, and Mohd Nawaz. (*Analytical and Bio-analytical Chemistry*, 2010, 396, 2909-2919 (IF 3.11)).
 23. **Chitosan and Aloe Vera: Two Gifts of Nature.** Mohmmad Younus Wani, Nazim Hasan and Maqsood Malik, (*Journal of Dispersion Science and Technology (JDST)*, 2010, 31, 1-13 (IF 1.59)).
 24. **Preparation and Characterization of Films Based on Crosslinked Blends of Gum Acacia, Polyvinylalcohol, and Polyvinylpyrrolidone-Iodine Complex,** Syed Ishraque Ahmad, Nazim Hasan, C K V Zainul Abid, Nasreen Mazumdar. (*Journal of Applied Polymer Science*, 2008, 109, 775-781 (IF 1.6)).
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Manuscripts under communication/preparation:

1. **Study of surface tension and surface thermodynamic parameters of taurine and tyramine with D-glucose: Temperature-concentration dependent behaviour**, Shadma Tasneem, **Nazim Hasan**, Rafat M Amin and Rehab Khaled Mahmoud. (Communicated) (2017).

Conferences abstract acceptance/attended:

1. **4th Jazan University's Medical Research Day, Up to date in Diabetes Mellitus 6th March-2014, accredited by the Saudi Commission For Health Specialties with accreditation number: 39878/2014.** Participated as Poster Presentation on Pt-NPs for the photothermal treatment of Neuro 2A cancer cells. **Nazim Hasan**, M. Mani and Hui Fen Wu.
2. **4th Jazan University's Medical Research Day, Up to date in Diabetes Mellitus 6th March-2014, accredited by the Saudi Commission For Health Specialties with accreditation number: 39878/2014.** Attendee and explore various research through various scientific questions.
3. **101 Annual Meeting of Chemical Society Located in Taipei, 1-2 December-2012, Tainan, Taiwan, poster presentation** entitle with 'Monitoring the heat stress response of *Escherichia coli* via NiO nanoparticle assisted MALDI mass spectrometry'. **Nazim Hasan**, Faheem Ahmad and Hui Fen Wu.
4. **19th IMSC 2012 conference, Sep-15-21, Kyoto International Conference Centre, Kyoto, Japan, Poster presentation** entitled with Fabrication of a titanium based MALDI bacterial chip for rapid, sensitive and direct analysis of pathogenic bacteria. **Hui-Fen Wu**, Judy Gopal and **Nazim Hasan**.
5. **The 4th World Chinese Mass spectrometry conference and 2012 Taiwan society for mass spectrometry, June 28 -July1st, 2012, Taiwan, Poster presentation** entitled with Liquid nitrogen spray mass spectrometry for the rapid identification of multiply charged ions of proteins and amino acid clusters without ESI source. Suresh Kumar Kailasa, **Nazim Hasan** and Hui Fen Wu.
6. **International conference and Exhibition on Nanotechnology and Nanomedicine, USA. J. Nanomedic. Nanotechnol., 2012, V-3, Issue 1-75. Oral presentation, Abstract published** entitled with Nanoparticle assisted enhanced biosynthesis of haloarchaeal carotenoid pigments: Preconcentration of pigments through Pt nanoparticles based liquid liquid microextraction for MALDI-MS analysis. **Muthu Manikandan**, **Nazim Hasan** and Hui Fen Wu.
7. **International conference and Exhibition on Nanotechnology and Nanomedicine, USA. J. Nanomedic. Nanotechnol., 2012, V-3, Issue 1-62. Oral presentation, Abstract published** entitled with Fabrication of TiO₂ nanoparticle thin film on titanium surfaces for application as bacterial sensor/biochip for rapid, sensitive and direct analysis of pathogenic bacteria using MALDI- MS. **Judy Gopal**, **Nazim Hasan** and Hui Fen Wu.
8. **The 58th Annual Conference on Mass Spectrometry. The 1st Asian and Oceanic Mass Spectrometry Conference, Tsukuba, Japan, 2010, Poster presentation** entitled

with Highly selective and sensitive enrichment of phosphopeptides via NiO nanoparticles using microwave assisted centrifugation - on particles ionization /enrichment (CF-OPIE) approach in MALDI-MS, **Nazim Hasan**, Hui-Fen Wu.

9. **18th International Mass Spectrometry Conference, Aug 30 - Sept 04, 2009, Bremen, GERMANY, Nazim Hasan**. Poster presentation on 'Two-step on particle ionization/enrichment via a washing and separation-free approach: multifunctional TiO₂ nanoparticles as desalting, accelerating, and affinity probes for microwave-assisted tryptic digestion of phosphoproteins in ESI-MS and MALDI-MS: comparison with microscale TiO₂.'
10. **International Conference on Advance in Polymer Science and Technology, 28th January 2008, Indian Institute of Technology (IIT) New Delhi, INDIA, Nazim Hasan**, Syed Ishraque Ahmad, Nasreen Majumdaar. Poster presentation on 'Synthesis, Characterization and Application of Polymeric Brominating Agents Based on Crosslinked PVA.'
11. **Symposium on the Application of Nuclear Magnetic Resonance to Material and Medicine Nov 21, 2006**, Indian Institute of Technology Delhi (IITD), New Delhi, INDIA.
12. **Interdisciplinary Science Conference – 2007 on Recent Trends in Research in Biological Sciences ISC – 2007, December 7, 2007**, Jamia Millia Islamia (JMI), New Delhi, INDIA.
13. **Summer School Workshop on Chromatographic by Indian Society of Analytical Scientist (ISAS) Delhi Chapter and Department of Chemistry, Jamia Millia Islamia, September 10, 2007** (Jamia Millia Islamia, New Delhi INDIA).

Extra curriculum activities:

- ▶ **Soccer Player of Jamia Millia University (2000-2001)**, Inter University Tournament at Punjab University, Chandigarh, Punjab, INDIA.
- ▶ **Soccer Player of Jamia Millia University (2002)**, Inter Faculty Tournament (From Faculty of Natural Science), Jamia Millia Islamia.
- ▶ **Soccer Player of Jamia Millia University (2004)**, Inter Faculty Tournament (From Faculty of Natural Science), Jamia Millia Islamia.
- ▶ Various sports and debate competitions during school and university levels.

References:

1. **Prof. Hui-FenWu**
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