N.S.Venkata Narayanan
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Department of Chemistry
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Professional Experience

- 2014 to till date, Assistant Professor, **Central University of Karnataka**
- January 2012 to February 2014, Research Associate at **Imperial College London,** London, United Kingdom
- January 2010 to January 2012, Research Associate at **National Research Council of Canada,** Ottawa, ON, Canada

Academic Qualifications

- ***PhD*** at Inorganic & Physical Chemistry Department (Research Supervisor: Prof.S.Sampath), **Indian Institute of Science, Bangalore**, India in December 2009
- ***Master of Science (M.Sc) in Chemistry*** at The American College (Autonomous), Madurai affiliated to Madurai Kamaraj University with 74% marks and qualified in I class in 2003
- ***Bachelor of Science (B.Sc) in Chemistry*** at St. Xavier's College (Autonomous), Palayamkottai affiliated to Manonmaniam Sundaranar University with 89.7% marks and qualified in I class with distinction in 2001

Additional Qualifications

- Qualified ***Graduate Aptitude Test in Engineering (GATE)*** during the academic year 2003
- Qualified ***National Eligibility Test (NET)*** for Lectureship conducted by University Grants Commission & Council of Scientific and Industrial Research ***(UGC-CSIR)*** during the year 2003-2004

Fellowships

- ***Research Associate Fellowship*** from Imperial College London in an EPSRC funded project from January 2012 to February 2014
- National Research Council of Canada ***Post Doctoral Research Fellowship*** at Institute for Chemical Process and Environmental Technology in NRC, Ottawa, Ontario from January 2010 to January 2012
- ***Senior Research Fellow (SRF)*** at Indian Institute of Science, Bangalore from August 2005 to December 2009

- ***Junior Research Fellow (JRF)*** at Indian Institute of Science, Bangalore from August 2003 to August 2005
- ***Sandwich PhD Research Scholarship*** offered by French Embassy in India from October 2007 to January 2008

Awards & Prizes

- A. S. R. Memorial prize for excellence in Chemistry in the academic year 2002-2003 during Master of Science (M.Sc.)
- Overall Academic Rank holder and won certificates of merit for excellence in Chemistry during Bachelor of Science (B.Sc.)
- Sponsorship & Travel Grant awarded by ARCUS-INDIA program of University of Joseph Fourier at Grenoble during PhD to participate European Summer School on Nanoscience and Nanotechnology (ESONN 2007) at Grenoble, France.
- Travel Grant & full expenses provided by French Embassy in India for Sandwich PhD research Scholarship (4 months) at University of Joseph Fourier, Grenoble, France

Membership of Professional Society

- Affiliate member of Royal Society of Chemistry (RSC)

Research Interest

- ***Room Temperature Molten Solvents/Ionic Liquids/Deep Eutectics***
  Amide based eutectic solvents, Ionic liquids, and electrochemical studies in room temperature molten solvents and ionic liquids.
- ***Electrochemical Energy Storage Devices***
  Application of molten solvents/ionic liquids to electrochemical energy storage devices, metal containing ionic liquids for redox-flow batteries, Rechargeable magnesium & zinc-based batteries, electro-catalysts for ORR, HER and methanol oxidation, direct methanol and proton exchange membrane fuel cells
- ***Modified Electrodes, Nanostructures for Electro-catalysis, Bio-sensors and Surface enhanced Raman scattering***
  Design & synthesis of nanostructures with application in the field of electro-catalysis and as a substrate for SERS and SERRS detection. Design and fabrication of modified electrodes via self-assembly and other step by step assembly methods.

Summer School

Participated in European Summer School on Nanoscience and Nanotechnology (ESONN 2007) at Grenoble, France from August 26 to September 15, 2007.

Research Publications

1) Amide-based Room Temperature Molten Salt as Solvent cum Stabilizer for Metallic Nanochains. N.S.Venkata Narayanan and S.Sampath, ***J. Clus. Sci.,* 2009,** *20,* 375.

2) Physicochemical, Electrochemical and Spectroscopic Characterization of Zinc-Based, Room Temperature Molten Electrolytes and Their Application in Rechargeable Batteries. N.S.Venkata Narayanan, B.V.Ashokraj and S.Sampath, ***J. Electrochem. Soc.,* 2009,** *156(11),* A863.

3) Magnesium Ion Conducting, Room Temperature Molten Electrolytes N.S.Venkata Narayanan, B.V.Ashokraj and S.Sampath, ***Electrochem. Commun.,* 2009***, 11(10),* 2027.

4) Phthalocyanine Macrocycle as Stabiliser for Au and Ag Nanoparticles. K.S. Lokesh, Venkata Narayanan and Srinivasan Sampath, ***Michrochim. Acta.,* 2009,** *167(1-2),* 97.

5) Ambient Temperature, Zinc ion - Conducting, Binary Molten Electrolyte Based on Acetamide and Zinc Perchlorate: Application in Rechargeable Zinc Batteries N.S.Venkata Narayanan, B.V.Ashokraj and S.Sampath, ***J. Colloid Interface Sci.,* 2010,** *342(2),* 505.

6) Physicochemical, Spectroscopic and Electrochemical Characterization of Magnesium Ion - Conducting, Room Temperature, Ternary Molten Electrolytes N.S.Venkata Narayanan, B.V.Ashokraj and S.Sampath, ***J. Power Sources.,* 2010,** *195(13),* 4356

7) Study of the electrochemical oxygen reduction on gold, boron-doped diamond and glassy carbon electrodes in acetamide – urea – ammonium nitrate eutectic melt**,** V.S. Dilimon, N.S.Venkata Narayanan and S. Sampath, ***Electrochim. Acta.,* 2010,** *55(20),* 5930.

8) Plasmon-Tuned Silver Colloids for SERRS Analysis of Methemoglobin with Preserved Nativity, Govindasamy Kalaivani, Arumugam Sivanesan, Ayyadurai Kannan, N.S.Venkata Narayanan, Agnieszka Kaminska, and Ranganathan Sevvel, ***Langmuir*, 2012,** *28 (40),* 14357–14363

9) Regenerative Silver Nanoparticles for SERRS Investigation of Metmyoglobin with Conserved Heme Pocket, Govindasamy Kalaivani, N.S.Venkata Narayanan,

Arumugam Sivanesan, Ayyadurai Kannan, Agnieszka Kaminska and Ranganathan Sevvel**,** ***RSC.Adv.,*** **2013,** *3,* 6839-6846.

10) Spontaneous Formation of Branched Nanochains From Room Temperature Molten Amides: Visible and Near – IR Active, SERS Substrates for Non-Fluorescent and Fluorescent Analytes, K. L. Nagashree, R. Lavanya, C. Kavitha, N.S.Venkata Narayanan and Srinivasan Sampath, ***RSC.Adv.,*** **2013,** *3,* 8356-8364.

11) Nickel phosphide: the effect of phosphorus content on hydrogen evolution activity and corrosion resistance in acidic medium, Anthony R. J. Kucernak and Venkata N. Naranammalpuram Sundaram, ***J. Mater. Chem. A,*** **2014,** 2, 17435-17445

Papers Presented in Research Symposia / Conferences

1) Presented a poster in Chemistry of Materials conference organized by JNCASR, Bangalore and RRL, Trivandrum held in Kollam during October 2005.
2) Oral presentation in the departmental in-house symposium at IISc during March 2006.
3) Presented a poster in Indo-Australian conference on Nanoscience and Nanotechnology from March 31 to April 1, 2006 at IISc, Bangalore.
4) Oral Presentation in ISAEST-8 international conference organized by SAEST and CECRI Karaikudi held in Goa during November 2006.
5) Presented a poster in inter-departmental Chemical Science Divisional day on Jan 20, 2007, at IISc Bangalore.
6) Presented a poster in ESONN 2007 summer school at Grenoble, France.
7) Co-authored a poster at 23rd International Conference on Raman Spectroscopy, Bangalore, India (ICORS 2012) August 12 - 17, 2012.
8) Co-authored a poster at conference on Advanced Infrared and Raman Spectroscopy at Łochów, November 16-18, 2012 organized by Polish Academy of Sciences, Warsaw, Poland

Mentoring & Supervising Research Activities

- Assisted and mentored graduate research scholars from Gandhigram University, Madurai Kamaraj University both from India, Katholic University of Leuven from Belgium both during PhD as well as during post-doctoral studies.
- Mentored & co-supervised research project assistants during PhD at Indian Institute of Science
- Co-supervised co-op(Bachelors) & research students at National Research Council of Canada
- Mentored and co-supervised, Bachelors and Masters students from Imperial College London