

Department of Chemistry

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Designation and Current Position	Assistant Professor
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Qualification	MSc PhD (Sogang University Seoul South Korea) (Post Doc)
Area of interest	Electrochemistry, Polymers, Nanomaterials, Formulations, Pesticides residue analysis, Electroosmotic pump, Surface modifications.
Teaching / Research Experience	12 years
Memberships	The International Electrochemical Society Member (2010) Korean Electrochemical Society (2008)
Achievements / Research Project Completed	1) Seoul Fellowship (South Korea - 2008), 2) SERB Young Scientist start up research grant (2015) “Conducting Polymer Functionalized Hydroxyapatite/Carbon Nanocomposite Film modified Electrodes: As an Efficient Platform for the Enzyme Immobilization and Electrochemical Biosensors for Pesticide Residue Analysis”. (32.2 lacs)
List of Publications	<p>PUBLICATIONS</p> <p>1) Preparation of PEG Tethered Ferrocene Modified Polyacrylic Acid/Silica Composite as an Electroactive Polymeric Platform for Biosensors. <i>Electroanalysis</i> 2011, 23, 2109 – 2115. Harishchandra Digambar Jirimali, Rajaram Krishna Nagarale, Jong Myung Lee, Durai Saravanakumar, Woonsup Shin [Impact Factor : 2.5]</p> <p>2) Reduction of CO₂ to CO at Low Overpotential in Neutral Aqueous Solution by a Ni(cyclam) Complex Attached to Poly(allylamine). <i>ChemSusChem</i> 2012, 5, 634 – 636. Duraishamy Saravanakumar, Jieun Song, Nayoung Jung, Harishchandra Jirimali, and Woonsup Shin [Impact Factor : 7.11].</p> <p>3) Hydroquinone Modified Chitosan/Carbon Film Electrode for The Selective Detection Of Ascorbic Acid. <i>Carbohydrate Polymers</i> 2013, 92 , 641 – 644. Harishchandra Digambar Jirimali, Rajaram Krishna Nagarale, Durai Saravanakumar, Jong Myung Lee, Woonsup Shin [Impact Factor : 3.91].</p>

4) Chitosan Crosslinked Osmium Polymer Composite as an Efficient Platform for Electrochemical Biosensor, *ChemPhysChem* 2013, 14, 2232- 2236.

Harishchandra Digambar Jirmali, Rajaram Krishna Nagarale, Jong Myung Lee, Durai Saravanakumar, Woonsup Shin. [Impact Factor: 3.36].

5) Optical absorption and electron paramagnetic resonance studies of Cr³⁺ doped Y₃Ga₅O₁₂ powders, *Research on Chemical Intermediates*, 2015, 41, 6533–6541. Vijay Singh, Anoop, Kumar Srivastava, Ram Kripal, H. D. Jirmali, S. Kokate, T. K. Gundu Rao, S. H. Kim. [Impact factor 1.54]

6) Preparation of Catechol-linked Chitosan/Carbon Nanocompositemodified Electrode and Its Applications, *Bulletin of the Korean Chemical Society*. 2015, 36, 1289–1291. **Harishchandra Digambar Jirmali**, Duraisamy Saravanakumar, and Woonsup Shin [Impact factor 0.91].

7) Bioelectrochemical Behavior of the Composite PVP-Os/chitosan as a Mediator with Different Types of Enzymes at Graphite Electrode, *Insights in Analytical Electrochemistry* 2015, 1,1. N. Beden, H. D. Jirmali, W. S. Shin, R. Ludwig, C. K. Peterbauer L. Gorton. [Impact Factor NA]

8) EPR and optical properties of green emitting Mn-doped BaMgAl₁₀O₁₇ nano-phosphors prepared by a combustion reaction, *Journal of Material Science: Materials in Electronics*. (2016) 27:3697–3703, Vijay Singh • M. Mohapatra, G. Sivaramaiah, J. L. Raom, N. Singh, H. Gao J. Li, Anoop K. Srivastava, H. D. Jirmali, S. J. Dhoble, Pramod K. Singh, K. V. R. Murthy, V. Natarajan. [Impact Factor 1.56]

9) Cr³⁺Doped Yb₃Ga₅O₁₂ Nanophosphor: Synthesis, Optical, EPR, Studies. *Journal of Electronic Materials* Vol. 45, No. 8, 2016, Vijay Singh, G. Sivaramaiah, J. L. Rao, N. Singh, M.S. Pathak, H. D. Jirmali, Pramod K. Singh, Anoop K. Srivastava,

S. J. Dhoble, M. Mohapatra. [Impact Factor 1.5]

10) Biomimetic Copper Complex Containing Polymer Modified Electrode for Electrocatalytic Reduction of Oxygen *J. Electrochem. Sci. Technol.* **2016**, 7(4), 298-305 D. Saravanakumar, Rajaram Krishna Nagarale, **Harish Chandra Jirimali**, Jong Myung Lee, Jieun Song, Junghyun Lee, and Woonsup Shin [Impact Factor 1.1]

11) Waste eggshell derived calcium oxide and nano-hydroxyapatite biomaterials for the Preparation of LLDPE polymer nanocomposite and their thermo mechanical study. **Harishchandra D. Jirimali***, Bhushan C. Chaudhari, Sachin A Joshi, Vijay Singh, Amardip M Patil, Jitendra Khandera^a, Vikas V. Gite**Plastics-Polymer Technology and Engineering (Accepted Manuscript) [IF-1.8]*

12) Ferrocene Tethered Polyvinyl Alcohol/Silica Film Electrode for the Electrocatalytic Sulfite Sensing. **Harishchandra Digambar Jirimali**, Rajaram Krishna Nagarale, Durai Saravanakumar, Woonsup Shin. *Electroanalysis* (Manuscript accepted) [I.F.-2.5]

13) Functional soybean oil-based polyols as sustainable feedstocks for polyurethane coatings. Prakash Alagia, Ravindra Ghorpade, Jeong Hyeon Jang, Chandrashekhar Patil, **Harishchandra Jirimali**, Vikas Gite, Sung Chul Hong, *Industrial Crops & Products* 113 (2018) 249–258 [I.F.- 3.1]

14) Chitosan-Cu-Salen/Carbon nano-composite based electrode for the enzyme-less electrochemical sensing of hydrogen peroxide **J. Electrochem. Sci. Technol.** , (Manuscript accepted) [I.F. 1.02]

15) Sol-gel derived green emitting Tb³⁺ doped Sr₂La₈(SiO₄)₆O₂ phosphors Vijay Singh, M.S. Pathak, N. Singh, Pramod K. Singh, **H.D. Jirimali**, *Optik* 168 (2018) 475–480 [I. F. - 0.835]

	<p>16) Utilisation of sebacic acid and nano hydroxyapatite in polyurethane nano-composite coating. Abhijeet Anand, H. D. Jirimali, R. D. Kulkarni, V. V. Gite, Manuscript Accepted, Green Materials [I.F. 1.2]</p> <p>17) Green emission from Tb³⁺-doped CaLaAl₃O₇ phosphor – A photoluminescence study, Vijay Singh a,*, K.N. Shinde b, M.S. Pathak a, N. Singh, Vikas Dubey, Pramod K. Singh, H.D. Jirimali, Optik 164 (2018) 407–413 [I. F. - 0.835].</p>
<p>Seminar/ Conference</p>	<p>Posters and Oral Presentations at International Conferences</p> <p>Oral Presentation</p> <p>1) Synthesis of Hydroquinone Modified Chitosan Derivatives for the Electrocatalytic Sensing of Ascorbic Acid. (Young Analytical Chemist Symposium - Korean Chemical Society Annual Meeting, April 2010 “Incheon Korea”)</p> <p>2) Electrochemical Properties of M-Salen Modified Chitosan Composite: Its Application to the Enzymeless Hydrogen Peroxide Sensor. (Spring Meeting of The Korean Electrochemical Society April 2012 “Gwangju Korea”.)</p> <p>3) Chitosan Based Redox Polymers for Electrochemical Sensing Platform (Young Electrochemists Symposium - Korean Chemical Society 112th National Meeting CECO, Changwon Korea, 18th Oct 2013)</p> <p>Poster Presentation</p> <p>1) PEG tethered Ferrocene Modified Polymer for Enzyme Based BioSensor. (4th Asian Biological Inorganic Chemistry Conference November 10-13, 2008 “Jeju Island Korea”)</p> <p>2) Catechol-Linked Chitosan For The Electrocatalytic Sensing Of NADH. (The 61st Annual Meeting of International Society of Electrochemistry September 26 to Oct 1st , 2010 “Nice France”)</p> <p>3) Hydroquinone Modified Chitosan/Carbon Nanocomposite for the Electrocatalytic Sensing of Ascorbic Acid. (Biotronics 2010 International Conference On Biosensors, Biochips And</p>

	<p>Bioelectronic Devices 28th October 2010 Seoul Korea)</p> <p>4) Synthesis of ferrocene tethered polyvinylalcohol/silica composite: Its application for the electrocatalytic sulfite oxidation (The Korean Electrochemical Society Annual Meeting, November 2010 “Seoul, KOREA)</p> <p>5) Chitosan Crosslinked Osmium Polymer Composite as an efficient Platform for Electrochemical Biosensor (Fall Meeting of The Korean Electrochemical Society November 2012 “JEJU KOREA”.)</p> <p>6) Synthesis of Nanostructured Hydroxyapatite Biomaterial From Waste Egg Shells For the Preparation of Polymer Nano Composites (RSC Symposium on Frontiers of Advances in Chemistry and Technology 2015 December 11-12, 2015 at North Maharashtra University, Jalgaon 425001, India.)</p> <p>7) Utilization Of Waste Egg Shells Derived Calcium Oxide Nano Powder For High Performance Polymer Composite. (6th International Science Congress 8-9 December 2016 Rajgurunagar Pune (MS) India.</p> <p>8) Simple Synthesis of Nanostructured Hydroxyapatite Decorated Graphene Oxide from Waste Egg Shells. “2nd International Conference On Recent Advances In Nanosciences and Nanotechnology-2016” ICRAN-2016 19-20 December 2016 JNU New Delhi India.</p> <p>9) Waste eggshell derived calcium oxide and nano-hydroxyapatite biomaterials to improve flame retardency of LLDPE. “ First National conference on Advances in Chemical Sciences ACS-2017 4 March 2017at North Maharashtra University Jalgaon 425001 MS India</p> <p>Faculty Workshops -</p> <p>1) Faculty Improvement For Research In Science And Technology (FIRST) June 18-25, 2015 (Seven Days National Workshop) At North Maharashtra University Jalgaon (MS) India 425001.</p> <p>2) INUP Familiarization Workshop on Nanofabrication Technologies, May 22-24, 2017, IIT Bombay.</p>
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