

# CURRICULUM VITAE



## Dr. V.M BIJU

Associate Professor  
Department of Chemistry  
National Institute of Technology  
Tiruchirappalli – 620 015, India  
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### OBJECTIVE

- 🔗 To prosecute Teaching & Research in frontier areas of chemistry

### PROFILE

- 🔗 Excellent theoretical, experimental and communication skills
- 🔗 Ability to use education and experience in the field of chemistry

### ACADEMIC PROFICIENCY

- 📖 Ph.D.(Luminescence spectrometry/Ionic imprinting technology Solid phase extraction), (2002 - 2006)  
National Institute for Interdisciplinary Science & Technology (NIIST)[formerly Regional Research Laboratory (RRL)], CSIR, Trivandrum (Kerala University), Kerala, India
- 📖 M.Sc. (Analytical Chemistry), (1995 - 1997)  
Bishop Moore College (affiliated to Kerala University, Trivandrum, India)
- 📖 B.Ed. (Physical Science), (1994 - 1995)  
Teacher Education centre (affiliated to Kerala University, Trivandrum, India)
- 📖 B.Sc. (Chemistry), (1991 - 1994)  
Subjects: Chemistry, Physics, Mathematics  
Mar Ivanios College (affiliated to Kerala University, Trivandrum, India)

## ***TEACHING AND RESEARCH EXPERIENCE***

- ☞ Associate Professor (March 2018 – till date)  
Department of Chemistry  
National Institute of Technology  
Tiruchirappalli – 620 015  
Tamil Nadu, India.
  
- ☞ Assistant Professor (April 2006 – March 2018)  
Department of Chemistry  
National Institute of Technology  
Tiruchirappalli – 620 015  
Tamil Nadu, India.
  
- ☞ Project Associate (August 2005 – April 2006)  
Inorganic Chemistry Section  
NIIST, CSIR, Thiruvananthapuram  
Kerala, India
  
- ☞ Senior Research Fellow-CSIR (January 2002 – January 2005)  
Inorganic Chemistry Section  
NIIST, CSIR, Thiruvananthapuram  
Kerala, India
  
- ☞ Junior Project Fellow (December 1998 – December 2001)  
Inorganic Materials Group  
NIIST, CSIR, Thiruvananthapuram  
Kerala, India

## ***RESPONSIBILITIES AND ACCOMPLISHMENTS***

- ☞ Conducted team and independent research on: Novel Solid phase extraction methods using newly functionalized sorbents, Design & Development of Electrochemical Sensors, Ionic liquids and Drug analysis.
  
- ☞ Well versed in applying spectroscopic techniques like NMR, IR, UV-Visible, AAS, Mass & Electrochemical spectrometry to characterize the chemical compounds.
  
- ☞ Published research articles in reputed journals and presented papers in scientific conferences.
  
- ☞ Assisting in initiating research projects with post graduate students.

- ☞ Acted as an NSS programme officer in NITT.
- ☞ Acted as an Sports Convener in NITT.
- ☞ Member, 5's Implementation in NITT (Phase 1), Mass Consultancy services, Coimbatore.
- ☞ Acted as NCC coordinator in NITT.

#### ***PARTICIPATION IN ACADEMIC ACTIVITIES***

- 📖 Acted as a member of Organizing Committee of **“International Conference on Nanomaterial & its Applications (ICNA-2007)”** held at NIT, Tiruchirappalli, India from 4 - 6, February 2007.
- 📖 Participated in the **“Workshop on Bioseparation Techniques”** under TEQIP community Services on 14<sup>th</sup> April, 2007 at Department of Chemical Engineering, NIT, Tiruchirappalli, India.
- 📖 Acted as a Coordinator for **“Training programme for National Eligibility Test (NET)”** held at NIT, Tiruchirappalli , India on 26 - 27, April 2007.
- 📖 Acted as a Coordinator for **“Workshop on catalysts in environmental applications (WCEA-2007)”** held at Department of Chemistry, NIT, Tiruchirappalli, India from 2-3, December 2007.
- 📖 Conducted & acted as Organizing Secretary for **“National Seminar on Sensor & its Applications (NSSA-2007)”** held at Department of Chemistry, NIT, Tiruchirappalli, India from 7 - 8, December 2007.
- 📖 Conducted & acted as Coordinator for **“Workshop on Electrochemistry & corrosion”** under TEQIP Tribal Development Plan scheme held at Department of Chemistry, NIT, Tiruchirappalli, India on 3<sup>rd</sup> September 2008.
- 📖 Conducted & acted as Convener for National Level Students' Symposium, **HORIZON-2008** under the theme **“Recent Trends in Analytical Chemistry”** held at Department of Chemistry, NIT, Tiruchirappalli, India from 3 - 4, October 2008.
- 📖 Conducted & acted as coordinator for **“Short term course on CSIR/UGC-JRF Exam in Chemical Sciences”** held at Department of Chemistry, NIT, Tiruchirappalli, India from 30-08-2012 to 03-09-2012.
- 📖 Conducted & acted as coordinator for **“Workshop on Applications of Spectroscopy in Inorganic, Organic & Physical chemistry (WASIOP)”**

held at Department of Chemistry, NIT, Tiruchirappalli, India from 29-03-2013 to 30-03-2013.

- 📖 Conducted & acted as coordinator for “**Short term course on Innovative Methods in Chemical Sciences**” held at Department of Chemistry, NIT, Tiruchirappalli, India from 05-05-2014 to 09-05-2014.
- 📖 Conducted & acted as coordinator for “**Short term course on Training programme for CSIR/UGC-JRF exam in Chemical Sciences**” held at Department of Chemistry, NIT, Tiruchirappalli, India from 01-09-2017 to 05-09-2017.
- 📖 Conducted & acted as Convener for National Level Students’ Symposium, **HORIZON-2018** under the theme “**Electrochemical Sensors**” held at Department of Chemistry, NIT, Tiruchirappalli, India from 28 - 29, September 2018.

#### ***ON-GOING / COMPLETED Ph.D. PROGRAMMES***

1. E. Linga Reddy, full time Research Scholar (Co-guide) completed Ph.D. on the thesis entitled, “**Decomposition of hydrogen sulfide to hydrogen and sulphur assisted by non-thermal plasma dielectric barrier discharge reactor**” (Physical Chemistry) and awarded on 2012.
2. D. Mannivannan, Senior Research Fellow (CSIR project) completed Ph.D. on the thesis entitled “**Preconcentration of trace heavy metal ions from real samples using functionalized sorbents**” (Bioanalytical Chemistry) and awarded on 2013.
3. Vinu Mohan A. M., Institute Research Scholar completed Ph.D. on the thesis entitled, “**Design and development of electrochemical Biosensors using modified electrodes**” (Electroanalytical Chemistry) and awarded on October, 2014.
4. D. Karunanithi, Part-time Research Scholar completed Ph.D. on the thesis entitled, “**Method development and validation of melatonin and sialic acid in cow, human and marketed milk products**” (Separation Chemistry) and awarded on January, 2015.
5. Aswini K. K., Institute Research Scholar completed Ph.D. on the thesis entitled, “**Design & Development of Electrochemical Sensors using Molecularly Imprinted Polymers**” (Electroanalytical Chemistry) and awarded on 2016.

6. Aswathi M., full time Non-stipendary completed Ph.D. on the thesis entitled, **"Synergistic enhancement effect of room temperature ionic liquid with cloud point extraction for the quantification of transition metal ions"** (Bioanalytical Chemistry) and submitted on 2019.
7. Vipin Vijay, Part-time(External) Research Scholar completed Ph.D. on the completed Ph.D. on the thesis entitled **"Active Filler Controlled Pre-ceramic Polymer Pyrolysis: Advanced Ceramics & Composites"** (polymer chemistry) and awarded on 2019.
8. Padmapriya, part time Non-stipendary (on campus) Research Scholar completed Ph.D. on the thesis entitled, **"Synthesis, characterization and adsorption performance of mesoporous geopolymer for effective removal of methylene blue from synthetic wastewater"** (Separation Chemistry) and awarded on 2019.
9. Naga Gayathri., full time Non-stipendary Research Scholar completed Ph.D. on the thesis entitled, **"Development and Validation of Drugs by Spectrofluorimetry Using Different Organised Media"** (Pharmaceutical Chemistry) and awarded on 2020.
10. Akhil Kumar, full time Non-stipendary Research Scholar (ongoing) Ph.D. thesis entitled **"Design and development of chitosan functionalized 8-hydroxy quinoline based thin film for fluorescence sensor application"**. (Bioanalytical Chemistry) and registered on 2015.
11. A.Kalaiarasi, full time Non-stipendary Research Scholar under the area of research, **"Design & development of thiourea based electrochemical sensors"** (Electroanalytical Chemistry) and registered on 2014.
12. T.S. Bhuvaneshwari, full time Non-stipendary Research Scholar under the area of research, **"Ionic liquid-based electro sensor and electro catalytic reduction of carbon dioxide"** (Electroanalytical Chemistry) and registered on 2018.
13. M. Kamaldev, part-time (sponsored) Research Scholar under the area of research, **"Utilization of Segregated Aggregates from RDF (Refused derived Fuels) for Green Concrete applications"**

#### *M.Sc. PROJECTS GUIDED/CO-GUIDED*

1. M.P. Shanmuga Priya in the project entitled **"Functionalization of "Upper Rim" of Calix[4]arenes by Baylis-Hillman Reaction"** (2007).

2. R. Kalaivani in the project entitled **“Genetic Engineering of the metal ion binding site in the Dinuclear Cu<sub>A</sub> Centre of Cytochrome C oxidase”** (2007).
3. R. Gayathri in the project entitled **“Comparative corrosion study on different grades on Stainless steel as per ASTM methods and corrosion behaviour of different grades of stainless steel in different combinations of food acids”** (2008).
4. K. Indira in the project entitled **“Synthesis and characterization of condensed phenolic resin for the quantification of transition metals”** (2008).
5. P. Kamachiyappan in the project entitled **“Synthesis and characterization of Co-ordination polymer for preconcentration of trace metals”** (2009).
6. G. Sundarapandiyan in the project entitled **“Synthesis and characterization of 8-Hydroxy-5-Azo Quinoline phenol formaldehyde resin and its Cu(II) complex”** (2009).
7. S. Priyadarshini in the project entitled **“Solid phase extraction of Mn(II), Co(II), Cu(II) & Cd(II) using 5,7-Dichloroquinoline-8-ol modified naphthalene”** (2010).
8. V. Ramkumar in the project entitled **“FAAS determination of Cu(II), Co(II), Mn(II) and Cd(II) using preconcentration of Polyethylene glycol modified alumina”** (2010).
9. R. Ramesh kumar in the project entitled **“Development of H<sub>2</sub>O<sub>2</sub> sensor using Prussian Blue modified electrode”** (2011).
10. P. Chitra in the project entitled **“FAAS determination of Cd(II) using preconcentration of dithizone modified naphthalene”**(2011).
11. B. Vinayagam in the project entitled **“Fluorescence determination of Europium in high purity Yttrium and Gadolinium oxide.”**(2011).
12. R.S. Aparna in the project entitled **“Development of Hydrogel based ion imprinted polymer (IIP) for Cadmium ion”**(2012).
13. Rambabu Gutru in the project entitled **“Sensitive detection of L-Tryptophan Using CoMnHCF-Graphene oxide modified Glassy carbon electrode”**(2012).
14. R. Devi in the project entitled **“Solid phase extraction preconcentration of Mn(II), Cu(II) & Cd(II) using 5,7-Dibromo Quiloline-8-ol modified**

- Napthalene”(2012).
15. K. Sindhuja in the project entitled "**Copper Hexacyanoferrate (CuHCF) Modified Graphite Wax Electrode towards Hydroxylamine Detection**" (2013).
  16. M. Silambarasan in the project entitled "**Synthesis and characterization of Phenol-Formaldehyde resin and Preconcentration of copper ions from real samples using functionalized sorbents**" (2014).
  17. R. Vinothavarthini in the project entitled "**Detection of hydrazine using MWCNT-Poly(Methylene Blue) modified platinum electrode**" (2014).
  18. S. Jambu in the project entitled "**Molecularly Imprinted polymer (MIP) based electrochemical sensor for salbutamol**" (2014).
  19. R. Dheepika in the project entitled "**Molecularly Imprinted polymer (MIP) based electrochemical sensor for Dopamine**" (2015).
  20. P. Giridharan in the project entitled "**Ionic liquid extraction of Zinc (II) ions from natural samples using synthesised room temperature ionic liquid**" (2015).
  21. R. Sakthivel in the project entitled "**Cloud point extraction of Chromium (III) ions from Environmental samples**" (2015).
  22. Anju Shaji in the project entitled "**Synthesis and Characterization of Azo dye and its Properties as an Electrochemical Sensor**" (2015).
  23. P.S. Sreejith in the project entitled "**Synthesis & Characterization of Novel Phenol-Formaldehyde resin for the preconcentration of Cadmium ions and its determination using FAAS**" (2016).
  24. P. Febina in the project entitled "**Synthesis & Application of 1-aryol-3-phenyl thioureas for extraction of Cadmium ions using spectroscopic studies**" (2016).
  25. S. Shalini in the project entitled "**Synthesis & Characterization of Acyl/Aroyl thiourea modified PAMAM dendrimers and as heavy metal ion extractant**" (2016).
  26. M.S. Suryamol in the project entitled "**Synthesis of RTIL, N-methyl-N,N-trioctyl-1-ammonium-5.7-diiodoquinolin-8-olate followed by cloud point extraction of Cr(III) ions using synthesized ionic liquid**" (2016).

27. P.S. Akshana in the project entitled **"Synthesis of Quinolinyl thiourea derivatives and determination of cations and anions at trace level"** (2017).
28. Ajay Ajith in the project entitled **"Differential Pulse Voltammetric method for the detection of Phenacetin using Molecularly Imprinted Electrochemical Sensor"** (2017).
29. P.M. Meenu in the project entitled **"UV Spectrophotometric assay of Omeprazole and its application to content uniformity testing and Stability studies"** (2017).
30. Alen Sam Thomas in the project entitled **"UV Spectrophotometric Assay of Ondansetron"** (2017).
31. Swetha Mohan in the project entitled **"Synthesis, Characterization and Fluorescence study of 2-methyl-8-quinolinol-5-sulphonic acid and its Al(III) and Zn(II) complexes"** (2017).
32. Aiswarya V.V. in the project entitled **"Electrochemical Detection of Doxepin using 4-(3-Aroylthioureido) Benzoic Acid derivatives"** (2018).
33. Kavya P in the project entitled **"Development of Spectrofluorimetric method for the determination of Ondansetron Hydrochloride in its Pharmaceutical formulations"** (2018).
34. Rasin P.V. in the project entitled **"Synthesis of silver nanoparticles and its investigation on Electrochemical properties"** (2018).
35. Thanasekar C. in the project entitled **"Synthesis, Characterization and Photo physical studies of  $\beta$  - diketo compound"** (2019).
36. Ardra Ashok K. P. in the project entitled **"Spectrofluorimetric method for the determination of Salbutamol in its Pharmaceutical formulations"** (2019).
37. Thangapandiyam G. in the project entitled **"Naphthalene based Acylthioureas: Synthesis, Structure and Spectral properties"** (2019).
38. Ajay P. in the project entitled **"Organization of Inorganic Nano-materials with recyclable supramolecular matrices"** (2020).
39. Vidhya V. in the project entitled **"CuCeO<sub>2</sub> anchored N-doped Reduced Graphene oxide for sensor application towards Nitroaromatics"** (2020).



40. Anshika Verma in the project entitled "**Metal free selective diarylation of Isatin**" (2021).
41. Priya Garg in the project entitled "**Multifunctional copper-based materials for overall water splitting applications**" (2021).

### **TECHNICAL EXPERTISE**

Technical skills include operation of instruments like FT-IR, UV-visible spectrophotometer, Luminescence spectrometer, FIAS-AAS, Electrochemical workstation and have the knowledge in MS-Office.

### **AWARDS AND HONORS**

- ✌ Senior Research Fellowship (2002) from Council of Scientific and Industrial Research, Ministry of Human Resources Development, Government of India, New Delhi.
- ✌ Contributed as co-author in "**ENCYCLOPEDIA OF ANALYTICAL SCIENCE**" for an article "**SPECTROPHOTOMETRY: ORGANIC COMPOUNDS**", Prof. Paul J. Worsfold, Prof. Alan Townshend and Prof. Colin F. Poole, Elsevier, oxford, second edition, Vol. 8 (2005) pp. 358-365.
- ✌ Best oral presentation award for the paper entitled "**LUMINESCENCE DETERMINATION OF ERBIUM WITH 5,7-DIIDOQUINIOLINE-8-OL AND RHODAMINE 6G**", **V.M. Biju** and T. Prasada Rao, presented in NSERD, 24-26, August, 2000, Tirupati.
- ✌ Faculty Award of Department of Chemistry in recognition for the contribution to the growth of the Institute through Consultancy Projects (BHEL project for 25 Lakhs) for the year 2018-2019.
- ✌ "**BEST PERFORMER AWARD**" among the "**SCIENCES DEPARTMENTS**" (Physics, Chemistry and Mathematics) was honoured in recognition of the commendable performance in Teaching, Research and Institutional Development in 2019-20 of the financial year 2019 – 2020.

### **MEMBERSHIP IN PROFESSIONAL SOCIETIES**

- ✌ Life member in **Indian society for Electroanalytical Chemistry (ISEAC)**, BARC, Mumbai, India

∞ Life member in **Electrochemical Society of India (ECSI)**, IISc, Bengaluru, India

### ***COUNTRIES VISITED ABROAD***

- ➔ Visited **Pohang University of Science & Technology (POSTEC)**, San 31 Hyoja-Dong, Nam-Gu, Pohang, Kyungbuk, 790-784, **South Korea** as a “**Visiting Researcher**” from 11-06-2007 to 11-07-2007 under Technical Education for Quality Improvement Programme (TEQIP) for abroad training.
- ➔ Visited **National University of Singapore, Singapore** while attending International Conference on Materials for Advanced Technologies (**ICMAT2009**) for poster presentation on “**Development of Glucose biosensor based on Carbon Nanomaterials**” organized by Materials Research Society (MRS) under the sponsorship of A\* Institute of Technology, Australia, Nanyang technological University, Singapore and National University of Singapore (NUS), Singapore from 28-06-2009 to 03-07-2009.
- ➔ Visited Kuala Lumpur, Malaysia while attending “**3rd International Conference on Ionic Liquids in Separation and purification Technology (ILSEPT 2017)**,” for poster presentation on “Cloud Point Extraction of Cr(III) and Cr(VI) ions Using Novel Room Temperature Ionic Liquid N-methyl-N,N-trioctyl-1-ammonium-5,7-diiodoquinololine-8-olate followed by FAAS Quantification”, organized by Elsevier, USA from January 08-11, 2017.

### ***PERSONAL***

Date of Birth : 15.02.1974  
Nationality : Indian  
Marital status : Married  
Father's Name : P.S Madhavan Nair  
Permanent address : Aravindam, T.C. 52/1118(7),  
Anugraha Nagar, Industrial Estate P.O,  
Poozhikunnu, Thiruvananthapuram - 695 019  
Kerala, INDIA.  
Phone: +91-471-2495771(R); +91-431-2503638(O);  
+91-9443843076(M)  
E-mail: [bijuvvm12@gmail.com](mailto:bijuvvm12@gmail.com); [vmbiju@ymail.com](mailto:vmbiju@ymail.com)  
Website: [www.nitt.edu](http://www.nitt.edu)

## LIST OF PUBLICATIONS

### Reviews

1. Trace determination of Lanthanides in Metallurgical, Environmental and Geological samples, T. Prasada Rao and **V.M. Biju**, *Critical Reviews in Analytical Chemistry*, 30 (2000) 179.
2. Ultra-trace analysis of individual Rare earth elements in natural water samples, T. Prasada Rao and **V.M. Biju**, *Reviews in Analytical Chemistry*, 21 (2002) 233.
3. Overview of flow injection analysis of inorganics in India, T. Prasada Rao, **V.M. Biju** and J. Mary Gladis, *Pollution Research*, 22 (2003) 559.

### Research Papers

4. Luminescence determination of Europium in high purity Yttrium and Gadolinium oxides, **V.M. Biju**, M.L.P. Reddy and T. Prasada Rao & Geeta Kannan, A.K. Mishra and N. Balasubramanian, *Analytical Letters*, 33 (2000) 2271.
5. Spectrofluorimetric determination of ultra trace amounts of Lutetium in Lanthanum, Praseodymium and Dysprosium oxides, **V.M. Biju**, N.M Sita and T. Prasada Rao, *Analytical Letters*, 34 (2001) 211.
6. Spectrofluorimetric determination of Erbium in Sea water with 5,7-diiodo oxine and Rhodamine 6G, **V.M. Biju** and T. Prasada Rao, *Analytical Sciences*, 17 (2001) 1343.
7. Spectrophotometric determination of Zinc in soils and sediments with 5,7-diiodo-8-hydroxy quinoline and Rhodamine 6G, Sajitha Nair, **V.M. Biju**, B. Vijayalakshmy and T. Prasada Rao, *Chemia Analit.*, 46 (2001) 589.
8. Selective Spectrophotometric determination of Cerium (IV), B. Vijayalakshmy; **V.M. Biju** and T. Prasada Rao, *Indian Journal of Chemistry, Section A*, 40A (2001) 1365.
9. On-line solid phase extraction of metal 5,7-dichloroquinoline-8-ol complex onto C<sub>18</sub> bonded silica gel and Flame AAS determination of copper in sea water samples; J. Mary Gladis, **V.M. Biju** and T. Prasada Rao, *Atomic Spectroscopy*, 23 (2002) 143.
10. Ion imprinted polymer (IIP) particles : Synthesis, Characterization and dysprosium ion uptake properties suitable for analytical applications, **V.M. Biju**, J. Mary Gladis and T. Prasada Rao, *Anal. Chim. Acta*, 478 (2003) 43.

11. Effect of  $\gamma$  - irradiation of ion imprinted polymer (IIP) particles for the preconcentrative separation of dysprosium from other selected lanthanides, **V.M. Biju**, J. Mary Gladis and T. Prasada Rao, *Talanta*, 60 (2003) 747.
12. Spectrophotometric determination of Yttrium in Y-Al alloys with 5,7-diiodoquinoline-8-ol and Rhodamine 6G, B. Vijayalakshmy, **V.M. Biju** and T. Prasada Rao, *Indian J. Chem. Tech.*, 10 (2003) 466-469.
13. On-line solid phase extraction preconcentration of ultra trace amounts of zinc in fractionated soil samples for the determination by flow injection flameAAS, C.R. Preetha, **V.M. Biju** and T. Prasada Rao, *Atomic Spectroscopy*, 24 (2003) 118-124.
14. Simultaneous preconcentration of Cu, Cd and Pb from soil samples by soil samples by solid phase extraction and their determination by AAS, P. Gopikrishna, K.S. Rao, **V.M. Biju**, T. Prasada Rao and G.R.K. Naidu, *Chemia. Analit.* (Warsaw), 49 (2004) 383-393.
15. On-line solid phase extraction preconcentration of Ultra trace amounts of cobalt and nickel in soil and human hair samples for determination by flow injection flame AAS, A.M. Starvin, **V.M. Biju** and T. Prasada Rao, *Atomic Spectrosc.*, 25 (2004) 238-244.
16. Synthesis, characterization and analytical applications of erbium(III) ion imprinted polymer particles prepared via  $\gamma$ -irradiation with different functional and crosslinking monomers, R. Kala, **V.M. Biju** and T. Prasada Rao, *Anal. Chim. Acta*, 549 (2005) 51-58.
17. FAAS Determination of Selected Rare Earth Elements Coupled with Multielement Solid Phase Extractive Preconcentration, **V.M. Biju** and T. Prasada Rao, *Chemia. Analit. (Warsaw)* 50 (2005) 935-944.
18. Preconcentration of Cu (II) from seawater using a novel and stable Phenol-Formaldehyde resin, D. Manivannan, Maria Starvin and **V. M. Biju**, *Water Science and Technology*, 61 (2010) 1853-1863.
19. Determination of toxic heavy metals in sea water by FAAS after preconcentration with a novel chelating resin, D. Manivannan and **V.M. Biju**, *Water Science and Technology*, 64 (2011) 803-808.
20. Non-thermal plasma assisted direct decomposition of H<sub>2</sub>S into H<sub>2</sub> and S, E. Lingareddy, **V.M. Biju** and **Ch. Subrahmanyam**, *International Journal Chemical and Environmental Engineering*, 2 (2011) 87-90.

21. Production of hydrogen from hydrogen sulfide assisted by dielectric discharge, E. Linga Reddy, **V.M Biju** and Ch. Subrahmanyam, *International Journal of Hydrogen Energy*, 37 (2012) 2204-2209.
22. Quantification of N-acetylneuraminic acid( Neu5Ac) in human milk using N-glycolylneuraminic acid as internal standard by LC-MS/MS, D.Karunanithi, A.Radhakrishna, **V.M.Biju**, *International Journal of Pharma and Bio Sciences*, 3 (2012) 299-308.
23. Production of hydrogen and sulfur from hydrogen sulfide assisted by nonthermal plasma, E. Linga Reddy, **V.M. Biju**, Ch.Subrahmanyam, *Applied Energy*, 95(2012) 87-92.
24. Hydrogen production from hydrogen sulfide in a packed bed DBD reactor, E. Linga Reddy, **V.M. Biju**, Ch.Subrahmanyam, *International Journal of Hydrogen Energy*, 37 (2012) 8217-8222.
25. Amperometric detection of glucose using Prussian blue – graphene oxide modified platinum electrode, Vinu Mohan A. M., Aswini K. K., Maria Starvin A and **V. M. Biju**, *Analytical Methods*, 5 (2013) 1764-1770.
26. Quantitative determination of Sialic acid in Indian milk and milk products, D.Karunanithi, A.Radhakrishna, **V.M.Biju**, *International Journal of Applied Biology and pharmaceutical technology*, 4 (2013) 318-323.
27. Catalytic packed bed non-thermal plasma reactor for the extraction of hydrogen from hydrogen sulfide, E. Linga Reddy, J. Karuppiah, **V.M. Biju**, Ch.Subrahmanyam, *International Journal of Energy Research* 37 (2013) 1280-1286.
28. Molecularly imprinted polymer based electrochemical detection of L-cysteine at carbon paste electrode, Aswini K. K., Vinu Mohan A. M. and **V. M. Biju**, *Materials Science & Engineering C*, 37 (2014) 321-326.
29. Electrochemical co-deposition of gold particle-poly(2-(2-pyridyl) benzimidazole) hybrid film on glassy carbon electrode for the electrocatalytic oxidation of nitric oxide, Vinu Mohan A. M., Aswini K. K., and **V. M. Biju**, *Sensor and Actuators B: chemical*, 196 (2014) 406-412.
30. Quantitative determination of melatonin in milk by LC-MS/MS, D.Karunanithi, A.Radhakrishna, K.P. Sivaraman & **V.M.Biju**, *Journal of Food Science & Technology*, 51 (2014) 805-812.

31. Electrocatalytic behaviour of hybrid cobalt manganese hexacyanoferrate film on glassy carbon electrode, Vinu Mohan A. M., Rambabu Gutru, Aswini K.K., and **V. M. Biju**, *Thin solid films*, 565 (2014) 207-214.
32. Synthesis and chelation properties of a new polymeric ligand derived from 1-amino-2-naphthol-4-sulfonic acid, D.Manivannan and **V.M.Biju** *Journal of AOAC international*, 98 (2015) 188-191.
33. Influence of Titanium silicide Active filler on the Microstructure Evolution of Borosiloxane-Derived Si-B-O-C ceramics, V.Vijay, S.Bhuvaneshwari, **V.M.Biju** and R. Devasia *Journal of Ceramic Science & Technology*, 07[01] (2016) 97-106.
34. Molecularly imprinted poly(4-amino-5-hydroxy-2,7-naphthalene disulfonic acid) modified glassy carbon electrode as an electrochemical theophylline sensor, Aswini K. K., Vinu Mohan A. M. and **V. M. Biju**, *Materials Science & Engineering C*, 65(2016)116-125.
35. Electrochemical sensing of hydroxylamine using a wax impregnated graphite electrode modified with a nanocomposite consisting of ferric oxide and copper hexacyanoferrate, Vinu Mohan A. M., Aswini K.K., and **V. M. Biju**, *Micro Chimica Acta*, 183 (2016) 2013-2021.
36. A UV Spectrophotometric Assay of sustained Release Brands of Tramadol Hydrochloride, S. Naga Gayatri and **V.M.Biju**, *World Journal of Pharmaceutical and Life Sciences*, 2 (2016) 323-329.
37. Assay of Pirfenidone by UV Spectrophotometry, S. Naga Gayatri and **V.M.Biju**, *Journal of Chemical and Pharmaceutical Research*, 8 (2016) 36-41.
38. Active Filler Controlled Polymer Pyrolysis - A Promising Route for the Fabrication of Advanced Ceramics, Vipin Vijay, **V M Biju**, Renjith Devasia, *Ceramics International*, 42 (2016) 15592 -15596.
39. A UV Spectrophotometric assay method for available brands of Ondansetron hydrochloride, **V. M. Biju**, S. Naga Gayatri and Alen Sam Thomas, *World Journal of Pharmacy and Pharmaceutical Sciences*, 06 (2017) 820-827.
40. Room temperature ionic liquid, cetyl pyridinium naphthenate, supported cloud point extractive separation and ultra-trace determination of copper in blood and environmental samples, M. Aswathi, Suja Mathai, Suju C.

- Joseph, and **V. M. Biju**, *Separation Science & Technology*, 52 (2017) 2540-2546.
41. Selective electrochemical detection of dopamine based on molecularly imprinted poly(5-amino 8-hydroxy quinoline) immobilized reduced graphene oxide, Vinu Mohan A. M., Aswini K.K., and **V. M. Biju**, *Journal of Materials Science*, 53 (2018) 10627–10639.
  42. A micelle enhanced spectrofluorimetric determination of pirfenidone: Application to content uniformity testing and human urine, S. Naga Gayatri and **V. M. Biju**, *Journal of Fluorescence*, 28 (2018) 951-957.
  43. Cloud point extraction of Cr(III) and Cr(VI) ions using novel room temperature ionic liquid N-methyl-N,N-trioctyl-1-ammonium-5,7-diiodoquinoline-8-olate followed by FAAS quantification, M Aswathi, M S Suryamol and **V M Biju**, *Indian Journal of Chemistry*, 57A (2018) 1448-1453.
  44. Stability Indicating UV Spectrophotometric Method for Estimation of Omeprazole and its Application to Content Uniformity Testing. S. Naga Gayatri, **V.M.Biju**, Meenu P M., *International Journal of Pharmaceutical Quality Assurance and Pharmaceutical analysis*, 9 (2018), 158-165 (Scopus Indexed Journal).
  45. Seawater based mesoporous geopolymer as a sorbent for the removal and recovery of methylene blue from wastewater, M. Padmapriya, S.T. Ramesh and **V.M. Biju**, *Desalination and Water Treatment*, 138 (2019) 313–325.
  46. Chemosensing, molecular docking and antioxidant studies of 8-aminoquinoline appended acylthiourea derivatives" A. Kalaiyarasi, J. Haribabu, D.Gayatri, K.Gomathi, N.S.P, Bhuvanesh, R. Karvembu, **V.M.Biju**, *Journal of Molecular Structure*, 1185 (2019) 450-460.
  47. Determination of Ondansetron by Spectrofluorimetry: Application to Forced Degradation Study, Pharmaceuticals and Human Plasma, S. Naga Gayatri, **V. M. Biju** and A.M. Starvin, *Journal of Fluorescence*, 29 (2019) 203-209.
  48. Characterization, morphology and stability assessment of low-cost industrial by-product as an adsorbent for the removal of methylene blue from aqueous solution, M. Padmapriya, S.T. Ramesh and **V.M. Biju**, *Separation Science and Technology*, 55 (2020) 471-486.

49. A Micelle Enhanced Spectrofluorimetric Determination of Melphalan: Application to Content Uniformity Testing and Human Plasma, S. Naga Gayatri and **V. M. Biju**, *Tenside Surfactants & Detergents*, 57 (2020) 40-44.
50. A cost-effective chitosan-oxine based thin film volatile acid vapour sensing application, Akhil kumar M.M. and **V.M. Biju**, *New Journal of Chemistry*, 44 (2020) 8044-8054.
51. Fabrication and property evaluation of titanium silicide active filler incorporated ceramic matrix composite, Vipin Vijay V, P.P. Shyin, **V.M. Biju**, Renjith Devasia., *Ceramics International*, 46 (2020) 21489–21495.
52. A quick responsive Chitosan-Oxine based thin film to recognize and remove Zn<sup>2+</sup> ion from potable water, Akhil kumar M.M. and **V.M. Biju**, *Chemistry Select*, 5 (2020) 11096–11105
53. Electrochemical Reduction of Procardia Drug with aid of Silver Phosphate/Strontium Phosphate Nanoparticles (AgP/SrP NPs) modified Glassy Carbon Electrode, Mr Balamurugan Arumugam, Mr Balamurugan Muthukutty, Miss Bhuvaneshwari Thasma Subramanian, **Dr Valasala Madhavan Nair Biju**, and Dr Sayee Kannan Ramaraj, *Microchemical Journal*, 159(2020) 105565.
54. A Confined Organised Media Enhanced Determination of Etodolac by Fluorimetry: Application to Spiked Human Urine and Pharmaceuticals, S. Naga Gayatri and **V. M. Biju**, *Indian Drugs* (Accepted).
55. Electrochemical sensing of doxepin using acylthiourea-modified glassy carbon electrode, A. Kalaiyarasi, N. S. P. Bhuvanesh, R. Karvembu & **V. M. Biju**, *Phosphorus, Sulfur, and Silicon and the Related Elements* (DOI: 10.1080/10426507.2021.2012778).

#### **REVIEWER IN REFERRED JOURNALS**

1. International Journal of Environmental Analytical Chemistry
2. Analytical Letters
3. Indian Journal of Chemistry, Section A
4. Materials Science and Engineering C
5. Analytical Chemistry
6. Journal of Photochemistry and Photobiology A: Chemistry



## **PAPERS PRESENTED IN NATIONAL/INTERNATIONAL CONFERENCES**

### **NATIONAL CONFERENCES**

1. "Luminescence determination of Erbium with 5,7-diiodoquinoline-8-ol and Rhodamine 6G", **V.M. Biju** and T. Prasada Rao, presented in **NSERD**, August 24-26, 2000, Tirupati. (**Best oral paper presentation award**).
2. "Multielement preconcentration of Nd, Eu and Lu by using 5,7-dichloroquinoline-8-ol modified naphthalene as solid phase extractant material", **V.M. Biju** and T. Prasada Rao, presented in **RCEAS-2004**, March 15-17, 2004, Tirupati (Poster).
3. "A new class of formaldehyde condensed phenolic schiff's base resin for the quantification of transition metals" **V.M. Biju** and Swarnalatha V, presented in **Analytical chemistry: Vision 2020**, March 27, 2008, ICT, Hyderabad (**Best oral paper presentation award**).
4. "Comparison study on solid phase extraction of Cu(II), Cd(II), Co(II) and Mn(II) ions from water samples using different functionalized sorbents", D. Manivannan, S. Priyadarsini, V. Ramkumar and **V.M. Biju**, presented in **NCRTC-2010**, March 08-10, 2010, NITK, Surathkal (Oral).
5. "Quantification of melatonin in milk using 7-D melatonin as internal standard by LC-MS/MS" entitled D. Karunanithi, A. Radhakrishna and **V.M. Biju**, presented in **National conference on current trends in Chemistry**, December 02-03, 2010, Bharathiar University, Coimbatore.
6. "DBD non-thermal plasma reactor for hydrogen production from H<sub>2</sub>S" E. Lingareddy, **V.M. Biju** and Ch. Subrahmanyam presented in **20th National Symposium on Catalysis for Energy Conversion & Conservation of Environment**, December, 19-22, 2010, Indian Institute of Technology-Madras, Chennai, India.
7. "Highly sensitive electrochemical detection of Nitric oxide using electropolymerised film of 2-(2-pyridyl) benzimidazole on glassy carbon electrode", Vinu Mohan A. M. and **V. M. Biju**, presented in **National Conference on Nano Science and NanoTechnology (NCNN-2011)**, August 25-27, 2011, University of Madras, Chennai.
8. "Voltammetric Behaviour of Electrodeposited Terbium Hexacyanoferrate Film on Glassy Carbon Electrode", Vinu Mohan A. M., Aswini K. K. and **V.M. Biju**, presented in **RASS 2013**, February 14-15, 2013, Gandhigram Rural Institute, Dindigul.

9. "Theophylline detection based on molecularly imprinted poly(4-amino-5-hydroxy-2,7-naphthalenedisulphonic acid) modified glassy carbon electrode", Aswini K. K., Vinu Mohan A. M. and **V.M. Biju**, presented in **National Conference on Chemosensors (NCC)**, September 19-20, 2014, NIT Trichy.
10. "Electrochemical detection of hydroxylamine using copper hexacyanoferrate film on glassy carbon electrode", Vinu Mohan A. M., Aswini K. K. and **V.M. Biju**, presented in **National Seminar on Current Trends in Chemistry**, January 17-18, 2014, Cochin University of Science and Technology, Kochi.
11. "Molecularly imprinted polymer based electrochemical sensor for theophylline", Aswini K. K., Vinu Mohan A. M. and **V.M. Biju**, presented in **National Seminar on Current Trends in Chemistry**, January 17-18, 2014, Cochin University of Science and Technology, Kochi.
12. "Conducting polymer based electrochemical sensors for drugs via molecular recognition", Aswini K. K., Vinu Mohan A. M. and **V.M. Biju**, presented in **Polymer Conference for Young Researchers (PCYR-14)**, October 18, 2014, CSIR-National Institute for inter-disciplinary Science and Technology (CSIR-NIIST), Pappanamcode, Thiruvananthapuram.
13. "Room temperature ionic liquid supported cloud point extraction of copper from natural samples" Aswathi.M and **V.M.Biju**, presented in **CSIMC 2015**, Jamal Mohamed College, Tiruchirappalli.
14. "A UV spectrophotometric determination of Pirfenidone: Application to content uniformity testing and spiked human urine" **V.M.Biju** & S. Naga Gayatri presented in Indian Analytical Science Congress (IASC 2018) with the theme in "Innovations and Emerging Advances in Analytical Science and Technology", February 8-10, 2018, School of Chemical Sciences, M.G. University, Kottayam, Kerala.
15. "Synthesis, Characterization and molecular docking studies of 8-aminiquinoline appended thiourea compounds" A. Kalaiyarasi, J.Haribabu, R. Karvembu and **V.M. Biju** presented in Indian Analytical Science Congress (IASC 2018) with the theme in "Innovations and Emerging Advances in Analytical Science and Technology", February 8-10, 2018, School of Chemical Sciences, M.G. University, Kottayam, Kerala.

#### **INTERNATIONAL CONFERENCES**

1. "Development of Glucose biosensor based on Carbon Nanomaterials", D. Manivannan, Ch. Subrahmanyam and **V.M. Biju**, presented in **ICMAT- 2009**, June 28 – July 3, 2009, Singapore (Poster).
2. "Non-thermal plasma assisted decomposition of hydrogen sulfide into hydrogen and sulfur", E. Lingareddy, **V.M. Biju**. and Ch.Subrahmanyam presented in **World Hydrogen Technologies Convention (WHTC)**, 26-28, August, 2009, New Delhi, India.(Oral)
3. "A Novel functionalized Phenol-Formaldehyde resin for preconcentration of trace metals in environmental samples", D. Manivannan, P. Kamachiyappan and **V.M. Biju**, presented in **MATCON-2010**, January 10-13, 2010, Cochin (Poster).
4. "Non-thermal Plasma assisted direct decomposition of H<sub>2</sub>S into H<sub>2</sub> and S" Ch.Subrahmanyam, E. Lingareddy and **V.M. Biju**, presented in **1st International Chemical and Environmental Engineering Conference (ICEEC)** 26-28, November, 2010, Kuala Lumpur, Malaysia.
5. "Electropolymerization of conductive polymers to sense biochemical processes in human body", Vinumohan, D. Manivannan and **V. M. Biju**, presented in **ISAEST-9**, December 2-4, 2010, Chennai (Poster).
6. "Hydrogen production from hydrogen sulfide in a packed bed DBD reactor", E. Lingareddy, **V.M. Biju** and Ch.Subrahmanyam, presented in **First international conference on plasma production and organic material processing**, 25-27, November, 2011, Mahatma Gandhi University, Kottayam, India (Invited talk).
7. "Synthesis and Chelation properties of new polymeric ligand derived from 1-Amino-2-naphthol-4-sulfonic acid", D.Manivannan and **V.M.Biju**, presented in **Functional Polymers**, January 28-30, 2011, NIT, Calicut (Oral).
8. "Prussian Blue modified glucose biosensor having poly(1,4-diaminobenzene) as an enzyme immobilization matrix", Vinu Mohan A. M. and **V. M. Biju** presented in **ISEAC - WS-2011**, December 07-10, 2011, Goa.
9. "Production of H<sub>2</sub> from H<sub>2</sub>S in a DBD plasma reactor operated at high temperatures", E. Lingareddy, **V.M. Biju** and Ch.Subrahmanyam, presented in **International congress of environmental research**, 15-17, December, 2011, SVNIT, Surat, India.

10. "Determination of Sialic acids in milk and milk products by LC-MS/MS", D. Karunanithi, A. Radhakrishna and **V.M. Biju**, presented in **International Conference on Biologically Active Molecules (ICBAM-2012)**, March 08-10, 2012, Gandhigram Rural Institute, Gandhigram, Dindigul, Tamil Nadu, India.
11. "Comparative study of fatty acids and sialic acid in milk, milk products and infant food products", D. Karunanithi, A. Radhakrishna and **V.M. Biju**, presented in **International conference on Food and Nutrition Technology for Public health care**, May 04-05, 2012, Jawaharlal Nehru University, New Delhi.
12. "Electrochemical Detection of Nitric Oxide Using Benzyl Imidazole Derivative Modified Glassy Carbon Electrode", Vinu Mohan A.M, Aswini K.K., and **V.M. Biju**, **fifth ISEAC Triennial International Conference on Advances and Recent Trends in Electrochemistry**, January 16-20, 2013 Hyderabad, India.
13. "Electrochemical Detection of Cysteine Using Carbon Paste Electrode Modified With Molecular Imprinted Polymer", Aswini K.K., Vinu Mohan A.M, and **V.M. Biju**, **fifth ISEAC Triennial International Conference on Advances and Recent Trends in Electrochemistry**, January 16-20, 2013 Hyderabad, India.
14. "Voltammetric Behaviour of Electrodeposited Terbium Hexacyanoferrate Film on Glassy Carbon Electrode", Vinu Mohan A.M, Aswini K.K., and **V.M. Biju**, **10<sup>th</sup> International symposium on Advances in Electrochemical Science and Technology, (iSAEST-10)**, January 28-30, 2013, Chennai, India.
15. "Molecular Imprinted Polymer/MWCNT Modified Carbon Paste Electrode for the Electrochemical Detection of Cysteine", Aswini K.K., Vinu Mohan A.M, and **V.M. Biju**, **10<sup>th</sup> International symposium on Advances in Electrochemical Science and Technology, (iSAEST-10)**, January 28-30, 2013, Chennai, India.
16. "Synergistic enhancement effect of room temperature ionic liquids for cloud point extraction I combination with FAAS quantitation of copper in natural samples", Aswathi.M and **V.M.Biju**, **presented in IGCBIC -2014**, Indian Institute of Science, Bangalore.
17. "Evolution of advanced ceramics from filler incorporated novel polyborosiloxane precursor", Vipin Vijay V, **V M Biju** and Renjith Devasia, **presented in International Conference on Ceramic & Advanced Materials for Energy and Environment**, December 14-15, 2015, Christ University, Bangalore.

18. "Cloud Point Extraction of Cr(III) and Cr(VI) ions Using Novel Room Temperature Ionic Liquid N-methyl-N,N-trioctyl-1-ammonium-5,7-diiodoquinoline-8-olate Followed By FAAS Quantification", Aswathi M. and **V.M. Biju**, presented in "**3rd International Conference on Ionic Liquids in Separation and purification Technology (ILSEPT 2017)**," January 08-11, 2017, Kuala Lumpur, Malaysia.
19. "Synthesis and Characterization of Acyl/Aroyl Thiourea Modified PAMAM Dendrimers as Membranes for Extraction of Heavy Metal Ions", A. Kalaiyarasi, R. Karvembu and **V.M. Biju**, presented in "**International conference on Membrane Technology and its applications (MEMSEP 2017)**", February 21-23, 2017, organized by Department of Chemical Engineering, National Institute of Technology & Indian membrane society, Tiruchirappalli.
20. "1-Acyl-3-quinolin-8-yl thiourea derivatives as chemosensor and its determination using optical and spectroscopic methods", A. Kalaiyarasi, R. Karvembu and **V.M. Biju**, presented in "**International conference on Recent Trends in Analytical Chemistry (ICORTAC-2018)**", March 15-17, 2018, organized by Department of Analytical Chemistry, Madras University, Chennai.

***PAPER PUBLISHED IN PROCEEDINGS FOR NATIONAL/INTERNATIONAL CONFERENCES***

1. International Conference proceeding on biologically active molecule title with **Determination of sialic acid in milk and milk products by LC-MS/MS**, D.Karunanithi, A.Radhakrishna and **V.M.Biju** , ISBN: 978-93-82062-03-5, 2012, 157-159.
2. National Conference on "Emerging Trends & Future Challenges in Chemical Sciences title with **Preconcentration of Divalent Metal Ions Using 5-[(4-Hydroxyphenyl) Diazenyl] Quinolin-8-ol-Formaldehyde**", **IOSR Journal Of Pharmacy**, (e)-ISSN: 2250-3013, (p)-ISSN: 2319-4219, 2018, 24-31.
3. International Conference on Advances in Materials and Manufacturing Applications (IConAMMA\_2017) title with **Effect of Titanium Silicide Active Filler on the Ceramic Conversion of Polycarbosilane**" Vipin Vijay, Jayalatha T, **V. M. Biju** and Renjith Devasia, **Materials Today: Proceedings** 5 (2018) 25085-25091.
4. 2nd National Conference on Emerging Trends and Future Challenges In Chemical Sciences-Chem Fest-18 title with **Determination of Cu(II)**,

- Co(II), Mn(II) and Cd(II) ions at trace levels by FAAS after preconcentration using modified Alumina-Polyethylene glycol" D Manivannan and V M Biju, *International Journal of Pharmacy and Biological Sciences*, ISSN: 2321-3272, 8 (2018) 71-83.
5. International conference on Chemistry and Physics of Materials title with "Highly sensitive fluorescence probe based on chitosan-oxine substituted derivative for the selective detection of Zn<sup>2+</sup> ion at biological pH (ICCPM2018P009)", ISBN: 978-81-935819-1-9, (2018) 51.
  6. International Workshop-cum-Conference on Smart Materials and their Applications in Recent Technologies (SMART 2020) title with "Synthesis of seawater based geopolymer: Characterization and adsorption capacity of methylene blue from wastewater" M. Padmapriya S.T. Ramesh and V.M. Biju, *Materials Today: Proceedings*, 51 (2022) 1770-1776.

#### ***SPECIAL LECTURES DELIVERED***

- ✧ Inaugurated Chemistry association for the Post Graduate Department of Chemistry, Bishop Moore College, Mavelikara, Kerala on 12<sup>th</sup> July 2006 and given an invited lecture on "LANTHANIDES AND THEIR APPLICATIONS"
- ✧ An invited talk was delivered for the topic **Analytical Chemistry** at NIT, Tiruchirappalli, India held on 26 - 27, April 2007 on "Training programme for National Eligibility Test (NET)".
- ✧ An invited talk was delivered at Shriram Institute for Industrial Research, Bangalore on 24<sup>th</sup> January 2008 on "RECENT DEVELOPMENTS IN ANALYTICAL RESEARCH"
- ✧ An invited talk was delivered at National Institute of Technology (NIT), Tiruchirappalli on 27<sup>th</sup> September 2008 on "RECENT TECHNIQUES IN ANALYTICAL RESEARCH AND DEVELOPMENT" in an interaction programme of Faculty and PG students of NITT & NITK about "Recent Research Trends in chemistry"
- ✧ An invited talk was delivered at Mallappally Institute for Academic Excellence, Mallappally, Kerala on 3<sup>th</sup> January 2009 on "APPLICATIONS OF COORDINATION COMPLEXES" under the Educational wing of Nuture India Society.
- ✧ An invited talk was delivered at Govt. Engineering College, Wayanad from 23-25, February, 2012 on the topic "CORROSION

**ENGINEERING"** under Visiting Faculty Scheme (VFS) constituted by AICTE.

- ✧ An invited talk was delivered at **"Workshop on Modern Analytical Techniques"** in National College (Autonomous), Tiruchirappalli on 15<sup>th</sup> March, 2013 on the topic **"High Pressure Liquid Chromatography-Instrumentation and applications"**.
- ✧ An invited talk was delivered at Govt. College, Kattappana, Kerala. from 21-22, November, 2013 on the topic **"FLOW INJECTION ANALYSIS - challenges and opportunities"** constituted by UGC.
- ✧ An invited talk was delivered at Govt. College, Kattappana, Kerala from 28<sup>th</sup>, November, 2014 on the topic **"Design and Development of Electrochemical sensors using Gold nanoparticles and Graphene modified glassy carbon electrodes"** in a National Seminar on **"NEW MATERIALS IN CHEMISTRY"** constituted by UGC.
- ✧ An invited talk was delivered at Govt. Engineering College, Wayanad from 18-20, February, 2015 on the topic **"CORROSION ENGINEERING"** under Visiting Faculty Scheme (VFS) constituted by AICTE.
- ✧ An invited talk was delivered at Department of Chemistry, University College, Thiruvananthapuram, Kerala from 2-3, March 2015 on the topic **"ATOMIC ABSORPTION SPECTROSCOPY & ITS APPLICATIONS"** in a National Seminar on **"NEW FRONTIERS IN CHEMISTRY"** sponsored by Directorate of Collegiate Education Government of Kerala.
- ✧ An invited talk was delivered at Department of Chemistry, Shanmuga Industries Arts & Science College, Tiruvannamalai, on 6, October 2015 on the topic **"GREEN CHEMISTRY & ITS APPLICATIONS IN DAY-TO-DAY LIFE"** in a State level Seminar on **"RECENT TRENDS IN ANALYTICAL CHEMISTRY"**.
- ✧ An invited talk was delivered at Department of Chemistry, Jamal Mohammed College, Trichy, at 14, October 2015 on the topic **"ATOMIC ABSORPTION SPECTROSCOPY & ITS APPLICATIONS IN ANALYTICAL CHEMISTRY"** in a Special Lecture programme in Chemistry.

- ☆ An invited talk was delivered at PG & Research Department of Chemistry, Mar Ivanios college (Autonomous), Thiruvananthapuram on 10, March 2016 on the topic **"ATOMIC & MOLECULAR SPECTROSCOPIES AND ITS APPLICATIONS"** in a **"NATIONAL LEVEL SEMINAR ON ADVANCED ANALYTICAL TECHNIQUES"** (NSAAT 2016) sponsored by UGC.
- ☆ An invited talk was delivered at Post Graduate Department of Polymer Chemistry, Govt. College, Attingal, Kerala from 24-26, November, 2016 on the topic **"Solid Phase Extraction-Ion Imprinted polymers"** in a National Seminar on **"MODERN TRENDS IN CHEMISTRY AND POLYMER CHEMISTRY"** sponsored by Directorate of Collegiate Education, Kerala.
- ☆ An invited talk was delivered at Post Graduate Department of Polymer Chemistry, Govt. College, Kasaragod, Kerala from 08-09, December, 2016 on the topic **"Solid Phase Extraction-Ion Imprinted polymers"** in a National Seminar on **"RECENT CHALLENGES PROGRESSES IN CHEMISTRY"** sponsored by Directorate of Collegiate Education, Kerala.
- ☆ An invited talk was delivered at Post Graduate & Research Department of Chemistry, Bishop Moore College, Mavelikara, Kerala from 15-17, February, 2017 on the topic **"Molecularly Imprinted polymers as Biosensors"** in a National Seminar on **"RECENT TRENDS IN BIOMATERIALS (BIOMEET 2017)"** sponsored by DST-SERB, New Delhi & KSCSTE, Kerala.
- ☆ An invited talk was delivered at Post Graduate Department of Polymer Chemistry, Govt. College, Attingal, Kerala from 01-03, November, 2017 on the topic **"Design & Development of Electrochemical sensors using Molecularly Imprinted Polymers"** in a National Seminar on **"NATIONAL SEMINAR ON ROLE OF CHEMISTRY IN A BLOOMING SOCIETY"** sponsored by Directorate of Collegiate Education, Kerala.
- ☆ An invited talk was delivered at Indian Institute of Space Science and Technology (IIST), Trivandrum, Kerala from 10-13, October, 2018 on the topic **"Fabrication of Electrochemical sensors using Screen Printed Electrodes"** in an International Conference on **"RECENT TRENDS IN MATERIALS SCIENCE AND TECHNOLOGY"** sponsored by Materials Research Society of India, Thiruvananthapuram Chapter.
- ☆ An invited talk was delivered at Department of Chemistry & Research Centre, Nesamony Memorial Christian College, Marthandam, Kanyakumari District, Tamil Nadu from 1-2, August, 2019 on the topic



- “Analytical Separation Techniques”** in a National seminar on **“GROUP THEORY & ITS APPLICATION IN CHEMISTRY”** sponsored by UGC, New Delhi.
- ✧ An invited talk was delivered at Department of Physics, Noorul Islam Centre for Higher education, Kumarcoil, Thuckalay, Kanyakumari District, Tamil Nadu from 24<sup>th</sup>, February, 2020 on the topic **“Fabrication of Electrochemical Sensors using Screen Printed Electrodes”** in a National conference on **“FUNCTIONAL MATERIALS (NCFM-2020)”** sponsored by Alumini Wing (Dept. of Physics).
  - ✧ An invited talk was delivered at Department of Physics, Bishop Moore College, Mavelikara, Kerala from 13-19, May, 2020 on the topic **“Fabrication of Electrochemical Sensors using modified Electrodes”** in a one week E-Summer School on **“ADVANCED FUNCTIONAL MATERIALS FOR ENERGY HARVESTING, STORAGE AND BIOMEDICAL APPLICATIONS”** sponsored by the Kerala State Higher Education Council, Thiruvananthapuram, Kerala.
  - ✧ An invited talk was delivered at PG and Research Department of Chemistry, Jamal Mohamed from 28, May 2020 on the topic **“Analytical Separation techniques”** in lecture series sponsored by the DBT star college scheme.
  - ✧ An invited talk was delivered at Department of Chemistry, Saranathan College of Engineering, Tiruchirappalli, Tamil Nadu from 22-28, June, 2020 on the topic **“Design and Development of Electrochemical Sensors”** in a one week online on **“RECENT AVENUES IN CHEMICAL SCIENCES”** sponsored by the Department of Chemistry, Saranathan College of Engineering, Trichy.
  - ✧ An invited talk was delivered at UGC-Human Resource Development Centre (HRDC), Kannur University from 17, August, 2020 on the topic **“Design and Development of Electrochemical Sensors”** in an online Refresher Course in Chemical Science from 14-08-2020 to 27-08-2020 sponsored UGC, New Delhi.

#### **TRAINING PROGRAMMES ATTENDED**

- ✧ Undergone one day training programme on **“Instrumental Methods of Thermal Analysis and Data Interpretation”** held on 25<sup>th</sup> November 2006 organized by CEESAT, National Institute of Technology, Tiruchirappalli.
- ✧ Undergone **“A training programme on Laboratory safety”** conducted by **Dr. James A. Kaufman, Director, Laboratory Safety Institute,**

**Natick, Massachusetts, USA** organized jointly by Indian Institute of Chemical Technology (IICT), CSIR, Hyderabad & Human Resource Development Centre, CSIR, New Delhi from 18-20, February 2008.

- ⊗ Undergone an Induction training programme on **“INSTRUCTION DESIGN AND DELIVERY SYSTEM”** held on 05-10 January 2009 organized by Department of Education, National Institute of Technical Teachers Training and Research (NITTRC), Taramani, Chennai.
- ⊗ Undergone an Faculty Development Programme (AICTE) on **“ADVANCED NANOMATERIALS”** held on 06 - 12 July 2011 organized by School of Nano Science & Technology (SNST), NIT, Calicut.

***SPONSORED/CONSULTANCY PROJECT UNDERTAKEN AS PRINCIPAL INVESTIGATOR***

**Sponsored Projects:**

1. **“Synthesis and Characterization of novel functionalized solid sorbents for online flow injection preconcentrative separation and determination of inorganics by Atomic/Molecular spectrometric techniques”** - sanctioned by CSIR - Rs.10.5 lakhs (21-04-2008 to 21-03-2011).

**Consultancy Projects:**

1. **“Establishment of Nano/cost effective insulation coating for high temperature application to reduce insulation thickness”**- sanctioned by BHEL, Trichy under Siemens CoE in Manufacturing, NIT, Trichy - Rs. 25,77,622 lakhs (04-10-2018 to 03-05-2020).

**(Dr. V. M Biju)**