



Dr. Archana.S.R

Assistant Professor of Chemistry

ADDRESS & EMAIL

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QUALIFICATION

MSc, MPhil, Ph.D, NET,
B.Ed

DATE OF JOINING

07-01-2011

EXPERIENCE IN YEARS

9 Years

AREA OF SPECIALIZATION

Material Science
Electrochemistry

PAPER PRESENTATIONS

- “Assembling of bio mineralized MnO₂ based cathode and Al-alloy anode for microbial fuel cell operation”, International Conference on Electrochemical Power Systems (ICEPS-2008), SAEST, November 2008, Thiruvananthapuram, Kerala, India, (International).
- “ Wettability and interfacial behavior of ceria based composites on Al-Zn alloy sacrificial anode”, CORCON 2011, Mumbai, (International).
- “Power generation and corrosion prevention using MnO₂ incorporated aluminium alloy sacrificial anode”, HEAM SCIENTIST 2013, Trivandrum, (National).
- “Exploration of new generation sacrificial anodes for prevention of corrosion on underwater steel” “Remediation of corrosion prone mild steel structures using CeO₂-MnO₂ composite incorporated Al alloy sacrificial anode”, HEAM SCIENTIST 2017 (National) structures”, MARC 2015, Trivandrum.
- “Remediation of corrosion prone mild steel structures using CeO₂-MnO₂ composite incorporated Al alloy sacrificial anode”, HEAM SCIENTIST 2017 (National).
- Corrosion inhibition of mild steel in acid medium using a green inhibitor – Epipremnum aureum, Govt Arts College, Trivandrum 2018 (National).
- Photocatalytic degradation of Alizarin red S by CeO₂-TiO₂ nano composite under solar irradiation, HEAM SCIENTIST 2018 (National).

- Presented a poster on “Catalytic degradation of phenol by CeO₂-MnO₂ nano composite, in the international seminar on Supra and Nano Chemistry of bio active molecules-2019 at Christian college Kattakada Co- sponsored by KSCSTE on 19th and 20th August 2019.
- Photocatalytic degradation of methylene blue by using TiO₂ based nano composite, International symposium on advanced functional materials [ISAFM 2018], Mar Ivanios College, Thiruvananthapuram.
- Presented a poster on “Catalytic degradation of phenol by CeO₂-MnO₂ nano composite, in the international seminar on Supra and Nano Chemistry of bio active molecules-2019 at Christian college Kattakada Co- sponsored by KSCSTE on 19th and 20th August 2019.

PARTICIPATION IN SEMINARS/ CONFERENCES/ WORKSHOPS

- International Conference on Materials for the Millennium, Cochin University of Science and Technology, 2007.
- 97th Indian Science congress, Kerala University, Thiruvananthapuram, 2010.
- Seminar on Dimensions in Stereochemistry, T.K.M. college of Arts and Science, 2011
- Workshop on grading of B.Sc, University College, Thiruvananthapuram, 2012.
- Workshop on Micro scale Experiments in Chemistry, University of Kerala, 2014.
- Pre ICORS International Workshop on Raman Spectroscopy Recent Advances, Techniques and Applications, 2012.
- National Seminar on Frontiers in Chemistry, Kerala University, Thiruvananthapuram, 2012.
- National Seminar on Recent trends in Bio- Nano Photonics, Sree Narayana College for Women, Kollam, 2013.
- Seminar on Spectroscopic Techniques for Organic and Inorganic Molecules, Govt. Arts College, Thiruvananthapuram, 2015.
- National Workshop on Intellectual property Rights in the Knowledge Economy, 2009.
- HEAM CAM 2012, a national level Workshop on Characterisation of Advanced Materials, Indian Association for Hydrogen Energy and Advanced Materials, 2012.
- Workshop on computational Chemistry and Applications, SRIBS, Kottayam, 2016-2017.
- National Seminar on Insights into the Advanced Topics in Chemistry, 2017.

- Workshop on M.Sc organic practicals (newly introduced topics) at University College, TVM, 2018
- Participated in 'NAAC Sponsored National Seminar, Dec 19 & 20, 2019 Organized by SNCW, Kollam
- Participated in one day webinar- "An Introduction to Smart Materials" conducted by the Department of Chemistry, St. Gregorios College, Kottarakara on 23.05.2020.
- Participated in the International Webinar Lecture Series organised by the Department of Chemistry, St. Michael's College, Cherthala, Alappuzha, Kerala from 21-23 May 2020.
- Attended webinar "Covid- 19 and Health Issues", organised by Department of Chemistry, St. Xavier's College, Thumba on May 2020.
- Participated in the "International Webinar on Recent Advances in Chemical Science" jointly organized by Postgraduate & Research Department of Chemistry and Internal Quality and Assurance Cell (IQAC), Sree Narayana College, Kollam from 28th - 31st May 2020.
- Participated in the International Webinar on 'Nanotechnology Against COVID-19', Organised by Post Graduate and Research Department of Chemistry, Sree Narayana College for Women, Kollam, Kerala, India on 23 July 2020.
- Participated in the International Webinar on 22nd July 2020 organized by the Post Graduate and Research Department of Physics, Sree Narayana College for Women, Kollam, Kerala.
- Participated in the webinar 2K20'Unlock Chemistry in Lockdown 'organized by Department of Chemistry, St. Joseph's College for Women, Alappuzha on 19th-21st May 2020.
- UGC sponsored Refresher Course in Chemistry, UGC-Academic Staff College, University of Kerala, Kariavattom from 30-01-2013 to 20-02-2013, A grade.
- UGC sponsored Orientation programme, UGC- Human Resource Development Centre, University of Kerala, Kariavattom, Trivandrum from 22-04-2015 to 19-05 -2015, A grade.
- Online Refresher Course in Chemistry- SWAYAM conducted by MHRD Nov-Jan (2018-19).
- Faculty Development Programme (FDP) on *Online Education in Higher Education Institutions* conducted by the Faculty Development Centre of the Kerala State Higher

Education Council (KSHEC), Thiruvananthapuram on online mode from 13th to 17th July 2020.

PUBLICATIONS IN BOOKS OR JOURNALS

- S.R. Archana, P.S. Arun, B.R. Sreelekshmi, S.M.A. Shibli, Tuning of CeO₂-MnO₂ nano composite in Al-Zn alloy matrix for effective activation, *Materials Science & Engineering B* 261 (2020) 114768.
- P. Poornima Vijayan, A.V. Asha Bhanu, S.R. Archana, Anila Babu, Suchart Siengchin, Jyotishkumar Parameswaranpillai, Development of chicken feather fiber filled epoxy protective coating for metals, *Materials Today: Proceedings*, 2020.
- M.S. Suma, Rubina Basheer, B.R. Sreelekshmy, V. Vipinlal, M. Ameen Sha, P. Jineesh, Athira Krishnan, S.R. Archana, Viswanathan S. Saji, S.M.A. Shibli, *Pseudomonas putida* RSS biopassivation of mild steel for long term corrosion inhibition, *International Biodeterioration & Biodegradation* 137 (2019) 59–67.
- S.R. Archana, S. Saalin Raj, Suja Mathai, M.S.Suma, Nickel Entrapped K10-Monmorillonite composite Incorporated Al Alloy for Cathodic Protection, *Asian Journal of Chemistry*, 30(6) (2018) 1340-1348.
- P.S. Arun, T. K. Manoj Kumar, Revathy B. Nair, S.R. Archana, S.M.A. Shibli, An ONIOM study of catalytically active Bronsted Acid sites of ZSM-5, *Asian Journal of Chemistry*, 30 (4)(2018) 933-936.
- S.M.A. Shibli, L. Thushara, S.R. Archana, Synthesis, characterization and application of nano CeO₂ –Fe₂O₃ mixed oxide electrocatalyst for hydrogen evolution reaction, *Int. J. Hydrogen Energy* 42 (2017) 1919-1931.
- Archana S.R, Saalin Raj S, Divya S, Synthesis and characterization of CeO₂-MnO₂ nanocomposite and its photocatalytic behaviour for dye degradation, *LOGOS* (an interdisciplinary research journal ISSN 1380 2349-3836) , 2 (2014) 24-37.
- S.M.A. Shibli, S.R. Archana, A.P. Muhammed, Development of nano cerium oxide incorporated aluminum alloy sacrificial anode for marine applications, *Corr. Sci.*, 50 (2008) 2232 - 2238.

MEMBERSHIP IN PROFESSIONAL BODIES

- ACT (Academy of Chemistry Teachers)

- Breakthrough Science TVM Chapter

OTHER ACHIEVEMENTS

- Approved research guide of University of Kerala.
- Materials Today: Proceedings reviewer since June 2020.
- IASc-INSA-NASI Summer Research Fellowship in 2020.
- Certificate of Excellence from Elsevier Research Academy for the successful completion of Certified Peer Review Course
- Conducted & acted as the convenor for “National Seminar on Frontline Approaches in Material Science and Computational Chemistry” Organized by Department of Chemistry, Sree Narayana College for Women, Kollam, Kerala, India from 14-03-2018 to 16-03-2018.
- Patent Filed

Inventors : S.M.A. Shibli, S.R. Archana

Title : NANO CeO₂-TiO₂ COMPOSITE INCORPORATED Al-Zn ALLOY
SACRIFICIAL ANODE RESISTANT TO BIOFOULING

Application No.201741037131 A, Indian Patent

Abstract Publication Date : 27/10/2017

CITATIONS AND INDEXING, IF ANY

- **JOURNAL CITATIONS**
 - 44
- **INDEXING (h-INDEX)**
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