

CURRICULUM VITAE

Mr. J. SARAVANAN, Ph.D.,

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EDUCATION

May 2016-Dec 2020 : Ph.D., *Doctor of Philosophy in Chemistry*, School of Chemistry, Madurai Kamaraj University, Madurai-21, Tamil Nadu, India.

Thesis Title: “DESIGN AND DEVELOPMENT OF NANOSTRUCTURED MATERIALS FOR THE APPLICATIONS OF ELECTROCHEMICAL SENSORS”

Advisor: **Prof. G. Gnana kumar**

Nov 2011-Apr 2012 : M.Sc., *Master of Science in Chemistry*, St. Joseph's College, Bharathidasan University, Trichy, Tamil Nadu, India

Thesis Title: “ADSORPTION OF METHYLENE BLUE ONTO BABOOL TREE BARK ACTIVATED CARBON”

Scored **61.0% (First Class)**

June 2007–Apr 2010 : B.Sc., *Bachelor of Science in Chemistry*, Srinivasan College of Arts and Science, Bharathidasan University, Perambalur, Tamil Nadu, India,

Scored **73.42 % (First Class with Distinction)**

RESEARCH EXPERIENCE

Position(s)/Fellowship(s)	Period	Organization(s)
Ph.D., Research Fellow UGC-NON-NET, New Delhi	May 2016 to Dec 2020	Madurai Kamaraj University, Madurai, Tamil Nadu, INDIA
M.Sc., Research Fellow	June 2010 to April 2012	St. Joseph's College, Bharathidasan University, Trichy

ACADEMIC HONORS

- NON-NET Research Fellow - (UGC) New Delhi, India (2016-2019)

RESEARCH HIGHLIGHTS

Published in SCI Journals: **15**

h-index: **8**

Total impact factor (I.F): **102.8**

Total citations: **>500**

Conference Presentations: **6**

Average impact factor (I.F): **3.1**

ACCOMPLISHMENTS

- Design and Development of CuO@MnO₂ Core@Shell Architectures on Free-Standing Carbonaceous Biomass for Non-Enzymatic Hydrogen Peroxide Detection.
- Development of Free-Standing Co-Fe Metal Nanostructures Anchored PVdF-HFP Nanofibers Membrane Effectual as an Electrochemical Probe for Glucose Sensor Applications.

SCIENTIFIC SKILLS: TECHNIQUES/TOOLS ACQUAINTED WITH

- UV-Vis spectroscopy, Photoluminescence spectroscopy, FT-IR spectroscopy, Cyclic Voltammetry, DPV, LSV, Amperometry *i-t* curve, Chronoamperometry, Chronopotentiometry, Electrodeposition of nanostructures, Electrospinning, Chemical vapour deposition (CVD), Binder free and self-standing electrode fabrication.
- Analysis and data interpretation of SEM, TEM, XRD, AFM, UV-Vis, PL, FT-IR, RAMAN, XPS and electrochemical results.

SOFTWARE AND COMPUTATIONAL SKILLS

-  Scientific Applications: Chem draw and Origin lab
-  Office Applications: Microsoft office packages
-  Surface Explorer, Image J

STRENGTHS

- ☆ Good communication skill
- ☆ Hard working and effective team perform
- ☆ Passion to learn new things and adaptability to new environment
- ☆ Time and cost-effective execution of projects with motivation

PROJECT MANAGEMENT SKILLS

- Trained one research scholars and two project scholars from our laboratory and collaborators laboratory in the area of Electrochemical sensors.
- Strong organizational abilities (Team work) in planning and execution of experiments, facilities co-ordination, procurement of equipment's and consumables.

RESEARCH PUBLICATIONS-15 (Publishers: RSC, Elsevier and Springer)

From Doctoral Studies (Ph.D)

1. **J. Saravanan**, A. Vignesh, Syed Shaheen Shah, Md. Abdul Aziz, Mehboobai Pannipara, Abdullah G. Al-Sehemi, Siew-Moi Phang, Fong-Lee Ng, Bakrudeen Ali Ahmed Abdul, G. Gnana kumar, Binder-less and free-standing Co-Fe metal nanoparticles-decorated PVdF-HFP nanofiber membrane as an electrochemical probe for enzyme-less glucose sensors. *Res. Chem. Intermed.*, 2021. <https://doi.org/10.1007/s11164-021-04553-0>
2. **J. Saravanan**, Mehboobali Pannipara, Abdullah G. Al-Sehemi, Sara Talebi, Vengadesh Periasamy, Syed Shaheen Shah, Md. Abdul Aziz, G. Gnana kumar, Flower-like CuO/NiO nanostructures decorated activated carbon nanofiber membranes for flexible, sensitive, and selective enzyme-free glucose detection. *J. Mater. Sci: Mater. Electron.*, doi.org/10.1007/s10854-021-06927-x
3. S. Shakir, **J. Saravanan**, N. Rizan, K. J. Babu, M. A. Aziz, P. S. Moi, V. Periasamy, G. Gnana kumar, Fabrication of capillary force induced DNA template Ag nanopatterns for sensitive and selective enzyme-free glucose sensors. *Sens. Actuators B Chem.*, 2018, 256, 820-827. doi.org/10.1016/j.snb.2017.10.021 (I.F: 7.10, Citations: 10)
4. G. P. J. Rani, **J. Saravanan**, S. Sheet, M. A. J. Rajan, Y. S. Lee, A. Balasubramani, G. Gnana kumar, The Sensitive and selective enzyme-free electrochemical H₂O₂ sensor based on rGO/MnFe₂O₄ nanocomposite. *Electrocatalysis* 2018, 9, 102-112. doi.org/10.1007/s12678-017-0418-2 (I.F: 2.39, Citations: 7)
5. **J. Saravanan**, R. Ramasamy, H. A. Therese, G. Amala, G. Gnana kumar, Electrospun CuO/NiO composite nanofibers for sensitive and selective non-enzymatic nitrite sensors. *New J. Chem.*, 2017, 41, 14766-14771. doi.org/10.1039/C7NJ02073B (I.F: 3.288, Citations: 12)
6. G. Amala, **J. Saravanan**, D. J. Yoo, A. R. Kim, G. G. Kumar, An environmentally benign one pot green synthesis of reduced graphene oxide based composites for the enzyme free electrochemical detection of hydrogen peroxide. *New J. Chem.*, 2017, 41, 4022-4030. doi.org/10.1039/C6NJ04030F (I. F: 3.288, Citations: 28)

7. N. Rajendiran, S. Siva, **J. Saravanan**, Inclusion complexation of sulfapyridine with α - and β -cyclodextrins: spectral and molecular modeling study. *J. Mol. Struc.*, 2013, 1054-1055, 215-222. doi.org/10.1016/j.molstruc.2013.09.035.
8. N. Rajendiran, G. Venkatesh, **J. Saravanan**, Supramolecular aggregates formed by sulfadiazine and sulfisomidine inclusion complexes with α - and β -cyclodextrins. *Spectrochim. Acta Part A: Mol. Biomol. Spectros.*, 2014, 129, 157-162. doi.org/10.1016/j.saa.2014.03.028
9. N. Rajendiran, R. K. Sankaranarayanan, **J. Saravanan**, Nanostructures formed by cyclodextrin aminobenzophenones through supramolecular self assembly. *Spectrochim. Acta Part A: Mol. Biomol. Spectros.*, 2014, 127, 52-60. doi.org/10.1016/j.saa.2014.02.024
10. N. Rajendiran, J. Thulasidhasan, **J. Saravanan**, Inclusion complexation of isoprenaline and methyl dopa with α - and β -cyclodextrin nanocavities: spectral and theoretical study. *Spectrochim. Acta Part A: Mol. Biomol. Spectros.*, 2014, 122, 411-421. doi.org/10.1016/j.saa.2013.10.112
11. N. Rajendiran, R. K. Sankaranarayanan, **J. Saravanan**, A study of supramolecular host-guest interaction of dothiepin and doxepin drugs with cyclodextrin macrocycles. *J. Mol. Struc.* 2014, 1067, 252-260. doi.org/10.1016/j.molstruc.2014.03.051
12. N. Rajendiran, T. Mohandoss, **J. Saravanan**, Host interactions of iodocaine and prilocaine with natural cyclodextrins: spectral and molecular modeling studies. *Spectrochim. Acta* 2014. doi.org/10.1016/j.saa.2014.04.123
13. N. Rajendiran, R. K. Sankaranarayanan, **J. Saravanan**, Nanochain and vesicles formed by inclusion complexation of 4, 4'-diaminobenzaniide with cyclodextrins. *J. Experimental Nanoscience*, 2014, 11, 641-660. doi.org/10.1080/17458080.2014.930523
14. G. Venkatesh, **J. Saravanan**, N. Rajendiran, Cyclodextrin covered organic micro rod and micro sheet derived from supramolecular self-assembly of 2,4-dihydroxyazobenzene and 4-hydroxyazobenzene inclusion complexes. *Bull. Chem. Soc. Japan*, 2014, 87, 283-293. doi.org/10.1246/bcsj.20130255
15. M. J. Jenita, **J. Saravanan**, N. Rajendiran, Inclusion complexation of dihydroxy benzene derivatives with α - and β -CDs. *J. Ind. Chem. Society*, 2014, 91A, 899-911.

PAPERS PRESENTED IN CONFERENCES

- 1) **J. Saravanan**, G. Gnana kumar, Flower-like CuO/NiO nanostructured decorated activated carbon nanofiber membranes for flexible, sensitive, and selective non-enzymatic glucose detection, International Conference on “**Emerging Trends in Biotechnology for Waste Conversion (ETBWC) 2017**” held at CSIR-National Environment Engineering Research Institute (NEERI), Nagpur, Maharashtra, **October 8-10, 2017**.
- 2) **J. Saravanan** and G. Gnana kumar, Design and development of CuO/MnO₂ nanocomposite based non-enzymatic hydrogen peroxide sensors. **International Conference on "Nanomaterials for Energy, Environment, Catalysis and Sensors" (ICNEECS-15)** Madurai Kamaraj University, Madurai, Tamilnadu, December 11-12, 2015.

SEMINARS/ WORKSHOPS ATTENDED

- 1) **J. Saravanan**, G. Gnana kumar, Fe-Co metal nanostructures anchored nanofibers for the highly sensitive and selective non-enzymatic glucose sensor applications, One day national symposium on “Recent Developments in Chemistry” held at School of Chemistry, Madurai Kamaraj University, Madurai, Tamil Nadu, **India on 4th June 2016**.

PERSONAL DETAILS

Full Name	: Jayachandran Saravanan
Gender	: Male
Marital Status	: Single
Date & place of Birth	: 03 rd JUNE 1990, Padalur, (Tamil Nadu), INDIA
Nationality	: Indian
Permanent Address	: S/o. J. Saravanan, Maniyankurichi Road, Ambal Nagar, Padalur (Po),

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REFERENCES

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REFERENCES-2

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