

Faculty Profile of Dr. N. Ponpandian



Dr. N. Ponpandian
Professor & Head
Department of Nanoscience and Technology

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Mobile No:9443552271

Research Area

- Nanomaterials and Thin Films
- Energy Devices
- Sensors

Education & Career

Education

Doctor of Philosophy (Ph. D.)

Physics - Materials Science

Department of Nuclear Physics, University of Madras

University of Madras, Chennai

2003

Master of Philosophy (M. Phil.)

Physics

Ayya Nadar Janaki Ammal College, Sivakasi

Madurai Kamaraj University, Madurai

1996

Master of Science (M. Sc.)

Physics

Ayya Nadar Janaki Ammal College, Sivakasi

Madurai Kamaraj University, Madurai

1995

Bachelor of Science (B. Sc.)

Physics

Vivekananda College, Agasteeswaram, Kanyakumari

Madurai Kamaraj University, Madurai

1992

Career**At Bharathiar University (Reverse Order)****Professor and Head (July 2015 - Till Date)**

Department of Nanoscience and Technology

Professor (March 2014 - June 2015)

Department of Nanoscience and Technology

Associate Professor (March 2011 - Februray 2014)

Department of Nanoscience and Technology

Reader (February 2008 - February 2011)

Department of Nanoscience and Technology

Past Experience

Postdoctoral Fellow (September 2007 - February 2008)

Department of Physics and Astronomy
University of Nebraska, Lincoln, USA.

Postdoctoral Fellow (January 2006 - August 2007)

Institute of Physics
University of Rostock, Rostock, Germany.

Visiting Scientist (May 2003 - December 2005)

Institute of Experimental Physics
Free University of Berlin, Berlin, Germany.

Postdoctoral Research Associate (August 2002 - April 2003)

Department of Metallurgy
Indian Institute of Science, Bangalore, India.

Senior Research Fellow (April 1999 - March 2002)

Department of Nuclear Physics
University of Madras, Chennai, India.

Research Scientist (November 1996 - March 1999)

Department of Nuclear Physics
University of Madras, Chennai, India.

Awards

Tamil Nadu Scientist Award (TANSA)

Awarding Agency: Tamil Nadu State Council for Science and Technology,
Chennai

Year: 2020 Awarded in 2022..

Fellow of Royal Society of Chemistry (FRSC)

Awarding Agency: Royal Society of Chemistry, UK

Year: 2021.

Prominent Alumni Award

Awarding Agency: Ayya Nadar Janaki Ammal College, Sivakasi

Year: 2021.

Senior Scientist Award for Physical Sciences for the year 2016

Awarding Agency: Science City, Government of Tamil Nadu

Year: 2018.

Distinguished Paper Award

Awarding Agency: Association of Chemical Sensors, Taiwan

Year 2015

Fellow of the Academy of Sciences, Chennai

Awarding Agency: Academy of Sciences, Chennai

Year: 2014.

Editorial Board Member

Awarding Agency: Scientific Report, Nature Publishing Group

Year : 2014.

Best Paper Award

Awarding Agency:: Pondicherry University and Magnetic Society of India

Year: 2014.

Shri. P. K. Das Memorial Best Faculty Award (Senior)

Awarding Agency:: Nehru Group of Institutions, Coimbatore

Year: 2013.

Senior Research Fellow

Awarding Agency:: Council of Scientific and Industrial Research (CSIR),
Government of India

Year: 1999.

Young Scientist Award

Awarding Agency: International Union of Crystallography (IUCr)

Year: 1998.

Meera Vairaprakasam Gold Medal

Awarding Agency: Ayya Nadar Janaki Ammal College, Sivakasi

Year: 1995.

Membership

Professional Bodies

German Physical Society

Member

Period: Life Member

Magnetic Society of India

Member

Period: Lifetime

Academy of Sciences Chennai

Member

Period: Lifetime

American Chemical Society

Member

Period: Lifetime

Royal Society of Chemistry

Member

Period: Lifetime

Visits

1. Institute of Experimental Physics, Free University of Berlin, Germany
4 years
2003-2006
Visiting Scientist
2. Friedrich-Schiller University, Jena, Germany
1 Week
2003
Guest Researcher

3. Humboldt- University of Berlin, Germany
4 Days
2004
To deliver Lecture

4. Technical University of Dresden, Dresden, Germany
5 Days
2004
To attend a Conference

5. Karlsruhe Institute of Technology, Karlsruhe, Germany
7 Days
2005
To Deliver a Lecture

6. Max-Planck Institute of Colloids and Interfaces, Potsdam, Germany
7 Days
2005
To work and 3D printing

7. University of Potsdam, Potsdam, Germany
5 Days
2005
Guest Researcher

8. Max-Planck Institute for Solid State Research, Stuttgart, Germany
2 Days
2005
To deliver a Guest Lecture

9. Institute of Physics, University of Rostock, Germany
1 year 8 months
2006-2007
Post Doctoral Fellow

10. University of Regensburg, Regensburg, Germany
5 Days
2006
To attend German Physical Society Meeting

11. University of Hamburg, Hamburg, Germany
3 Days
2007
To attend the conference

12. Berliner Elektronenspeicherring-Gesellschaft für Synchrotronstrahlung,
Adlershof, Germany
5 years
2003-2007
To do experiments in Synchrotron radiation

13. Department of Physics and Astronomy, University of Nebraska, Lincoln,
USA
6 months
2007-2008
Postdoctoral Fellow

Collaborators (Last Five Years)

1. Dr S. Amirthapndian, Scientist F, Indira Gandhi Center for Atomic Research, Kalpakkam
2. Dr S. Manivel Raja, Scientist G, Defence Metallurgical Research Laboratory (DMRL), Hyderabad.
3. Dr P. Thangadurai, Professor, Centre for Nanoscience and Technology, Pondicherry University, R. V. Nafar, Kalapet, Puducherry..

Reviewer / Referee in International Journals :

Chemical Engineering Journal

RSC Advances

Projects

Funded Projects(National Level)

- [Ongoing - 03](#)
- [Completed - 06](#)

1. DST

Au decorated WO_3 /Graphene nanohybrids as high efficient photoelectrochemical water splitter for hydrogen production

DST-Science and Engineering Research Board – Core Research Grant (DST-SERB – CRG)

2017—2021

Rs.46.50 Lakhs

Principaal Investigator

2. RUSA

Development of Solar cell Materials and Methods for Sustainable Energy Storage

Rashtriya Uchchar Shiksha Abhiyan (RUSA – MHRD)

2017-2019

Rs.100.00 Lakhs.

Principal Investigator

3. UGC

Hollow Nanostructures of Hydroxyapatite and its Composites: Shape Controlled Synthesis and Photodegradation Studies

University Grants Commission (UGC-MRP)

2012-2015

Rs.12.76 Lakhs

Principal Investigator

4. DST

Development of Monodispersed Functionalized Superparamagnetic Nanoparticles for Potential Biological Applications

DST - Science and Engineering Research Council (DST-SERC)

2012-2015

Rs.22.64 Lakhs

Principal Investigator

5. UGC-DAE CSR

Ion Beam Synthesis and Characterisation of Nanocomposite Exchange Spring Magnets

UGC-Department of Atomic Energy - Consortium for Scientific Research (UGC-DAE CSR)

2011-2014

Rs.7.00 Lakhs

Principal Investigator

6. DRDO

Magnetocaloric Effect in Nanostructures and Thin Films of $Gd_5(Si_xGe_{1-x})_4$ for Magnetic Refrigeration

Defence Research and Development Organization (DRDO)

2010-2013

Rs.23.24 Lakhs

Principal Investigator

1. TANSICHE

Novel Photoelectrode Nanomaterials for Photoelectrochemical Applications: Reduction of Atmospheric CO_2 into Hydrocarbon Fuels and H_2 production via Water Splitting

Tamil Nadu State Council for Higher Education (TANSICHE)
2021-2024,
Rs.18.01 Lakhs.
Principal Investigator

2. RUSA

An Innovative approach in the development of ferrites based magnetic hyperthermia therapy for oncological applications
Rashtriya Uchchar Shiksha Abhiyan (RUSA 2.0- MHRD)
2021-2023
Rs.8.0 Lakhs.
Principal Investigator

3. UGS-DAE CSR

2D WS₂ Nanostructure Sandwiched with Hetero-Atom Doped (N, B) Graphene Layers for Sensing of Interdisciplinary Targets
UGC-Department of Atomic Energy - Consortium for Scientific Research (UGC-DAE CSR)
2019-2022
Rs.7.50 Lakhs.
Principal Investigator

Consultancy Projects

- [Ongoing](#)
- [Completed](#)

Research Guidance

Postdoctoral Fellows



Dr M. Veena (September 2021 - Till Date]
UGC - Kothari Postdoctoral Fellow

Ph. D. - SASTRA University, Tanjavore
Research Area: Materials Science - Gas Sensors

Publications:

1.



Dr K. P. Divya (July 2021 - Till Date]
RUSA 2.0 - BCTRC - Postdoctoral Fellow

Ph. D. - Alagappa University, Karaikudi
Research Area: Chemistry - Materials Science

Publications:

1. Bimetallic Coreshell-Hemoglobin Complex Immobilized MXene Based Voltammetric Biosensor for the Electrochemical Detection of Acrylamide, K. P. Divya, S. Keerthana, C. Viswanathan² and N. Ponpandian, **Journal of The Electrochemical Society** 169 (12) 127510 (2022). **DOI: 10.1149/1945-7111/aca8d5. Impact Factor: 4.316.**
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Dr Vaishali Londhe Pathake (November 2016 - December 2018]
DST-WOS

Ph. D. (UGC-DAE - Consortium for Scientific Research, Indore)

Research Area: Magnetic Materials

Publications:

1. TiO_2 as diffusion barrier at Co/Alq_3 interface studied by X-ray standing wave technique, Vaishali Phatak Londhe, A Gupta, N Ponpandian, D Kumar, V R Reddy, **Journal of Physics D Applied Physics**, 51 (22), 225303 (2018). **DOI:10.1088/1361-6463/aabf7a. Impact Factor:3.409.**

Ph. D. - Awarded



Dr S. Keerthana (November 2018 - January 2023)
Project Fellow [UGC-DAE CSR]

M. Sc. - Nanoscience and Technology (Physics Based), Bharathiar University, Coimbatore

Research Area: 2D Materials for Multiple Analytes Sensors

Publications:

1. WS_2 hierarchical nanoflowers on rGO with enhanced electrochemical performance for sensitive and selective detection of mesalazine in real sample analysis, S Keerthana, A Rajapriya, S Amirthapandian, C Viswanathan, N Ponpandian, **Colloids and Surfaces A: Physicochemical and Engineering Aspects** **618**, 126452 (2021). DOI: 10.1016/j.colsurfa.2021.126452. **Impact Factor: 5.518.**
2. Enzyme like-colorimetric sensing of H_2O_2 based on intrinsic peroxidase mimic activity of WS_2 nanosheets anchored reduced graphene oxide, S Keerthana, A Rajapriya, C Viswanathan, N Ponpandian, **Journal of Alloys and Compounds** **889**, 161669 (2022). DOI: 10.1016/j.jallcom.2021.161669. **Impact Factor: 6.371 .**
3. Hybrid nanostructures of WS_2 nanoflowers on N, B co-doped rGO for sensitive amperometric detection of Nilutamide, S. Keerthana, A.

Rajapriya, C. Viswanathan, N. Ponpandian, **Materials Today Chemistry 26**, 101052 (2022). DOI: 10.1016/j.mtchem.2022.101052. **Impact Factor: 7.613** .

4. Electrochemical impedimetric immunosensor based on stabilized lipid bilayer-tethered WS₂@MWCNT for the sensitive detection of carcinoembryonic antigen, S. Keerthana, K. P. Divya, A. Rajapriya, C. Viswanathan, N. Ponpandian, **Microchimica Acta 189** (12), 450 (2022). DOI: 10.1007/s00604-022-05557-2, **Impact Factor: 6.408**.



Ms A. Raja Priya (November 2018 - Till date)

Project Fellow [RUSA 2.0]

M. Sc. (Nanoscience and Technology - Physics Based)

Bharathiar University, Coimbatore

Research Area: 2D Materials and their Composites for Energy Storage and Conversion Applications.

Publications:

1. Direct growth of MoS₂ hierarchical nanoflowers on electrospun carbon nanofibers as an electrode material for high-performance supercapacitors, A.Rajapriya, S.Keerthana, C.Viswanathan, N.Ponpandian, **Journal of Alloys and Compounds 850**, 157771 (2021). DOI: 10.1016/j.jallcom.2020.157771. **Impact Factor: 6.371**.
2. Enriched oxygen vacancy promoted heteroatoms (B, P, N, and S) doped CeO₂: Challenging electrocatalysts for oxygen evolution reaction (OER) in alkaline medium, A. Rajapriya, S. Keerthana, A. Rebekah, C. Viswanathan, N. Ponpandian, **International Journal of Hydrogen Energy 46** (75), 37281-37293 (2021). DOI: 10.1016/j.ijhydene.2021.09.003. **Impact Factor: 7.139**.
3. Three dimensional integrated architecture of SrFe LDH on hierarchical NiS framework as a flexible electrode for efficient energy storage and conversion applications, A. Rajapriya, S. Keerthana, C. Viswanathan, N. Ponpandian, **Journal of Energy Storage 53**, 105091 (2022). DOI:



Dr M. Preethi (November 2018 - January 2023]

Research Scholar

M. Sc. - Physics, Government Arts College, Coimbatore

Research Area: Carbon Dots

Thesis : Valorization of domestic waste to pure and heteroatom doped carbon quantum dots as catalyst for fluorometric sensing of multiple analytes

Publications:

1. A Green path to extract the carbon quantum dots by cocos nucifera (coconut water): another fluorescent probe towards Fe^{3+} ions, M. Preethi, C. Viswanathan and N. Ponpandian, **Paricuology 58**, 251 - 258 (2021). DOI: 10.1016/j.partic.2021.03.019. **Impact Factor: 3.251.**
2. An environment-friendly route to explore the carbon quantum dots derived from curry berries (*Murrayakoenigii* L) as a fluorescent biosensor for detecting vitamin B12, M .Preethi, C. Viswanathan, N. Ponpandian, **Materials Letters 303**, 130521 (2021). DOI: 10.1016/j.matlet.2021.130521. **Impact Factor: 3.574.**
3. A metal-free, dual catalyst for the removal of Rhodamine B using novel carbon quantum dots from muskmelon peel under sunlight and ultrasonication: A green way to clean the environment, M.PreethiC.ViswanathanN.Ponpandian, **Journal of Photochemistry and Photobiology A: Chemistry 426**, 113765 (2022). DOI: 10.1016/j.jphotochem.2021.113765. **Impact Factor: 5.141.**
4. Potato starch derived N-doped carbon quantum dots as a fluorescent sensing tool for ascorbic acid, M. Preethi. R. Murugan. C. Viswanathan, N.,Ponpandian, **Journal of Photochemistry and Photobiology A: Chemistry, 431**, 114009 (2022). DOI: 10.1016/j.jphotochem.2022.114009. **Impact Factor: 5.141.**

5. Fluorescence quenching mechanism of P-doped carbon quantum dots as fluorescent sensor for Cu²⁺ ions, M. Preethi, C. Viswanathan, N. Ponpandian, **Colloids and Surfaces A: Physicochemical and Engineering Aspects**. **653**, 12994 (2022). DOI: 10.1016/j.colsurfa.2022.129942. **Impact Factor: 5.518.**
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Mr R. Murugan [November 2018 - January 2021]
Research Scholar

M. Sc. - Physics, Sacred Heart College, Tirupattur

Research Area: Semiconducting Nanocomposites for Energy Conversion Applications.

Thesis : Morphologically tuned metal chalcogenides (CdS, Sb₂S₃ and MoS₂) and their nanocomposites with rGO/ heteroatom doped rGO and NiS/CoS for enhancing hydrogen evolution reaction (HER)

Publications:

1. Investigation of morphologically tuned Sb₂S₃ nanostructures as an effective electrocatalyst for Hydrogen Evolution Reaction, R. Murugan, A. Rebekah, C. Viswanathan and N. Ponpandian, **Colloids and Surfaces A: Physicochemical and Engineering Aspects** **622**, 126612 (2021). DOI: 10.1016/j.colsurfa.2021.126612. **Impact Factor: 5.518.**
 2. Engineering the semiconducting CdS nanostructures by N-doped rGO for enhancing the adsorption sites: Promising electrocatalyst for hydrogen evolution reaction, R. Murugan, A. Rebekah, J. A. Allen, M. Preethi, C. Viswanathan, **International Journal of Hydrogen Energy** **47** (36) 16106-16120 (2022). DOI: 10.1016/j.ijhydene.2022.03.129. **Impact Factor: 7.139.**
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**Ms R. Rajalakshmi (November 2016 - February 2023)
Project Fellow [DST-SERB]**

M. Sc. - Nanoscience and Technology (Physics Based), Bharathiar University, Coimbatore
Research Area: Nanomaterials for Water Splitting.

Thesis : Engineering Morphologically Tuned WO_3 Nanoarchitectures by Decoration and Doping as Superior Catalysts for Electrochemical and Photoelectrochemical Water Splitting

Publications:

1. Enhanced electrochemical activities of morphologically tuned MnFe_2O_4 nanoneedles and nanoparticles integrated on reduced graphene oxide for highly efficient supercapacitor electrodes, R Rajalakshmi , K. P. Remya, C. Viswanathan and N. Ponpandian, **Nanoscale Advances** 3 (10) 2887 - 2901 (2021). DOI: 10.1039/D1NA00144B. **Impact Factor: 5.598.**
2. Sm^{3+} rare-earth doping in non-noble metal oxide- WO_3 grown on carbon cloth fibre as a bifunctional electrocatalyst for high-performance water electrolysis, R. Rajalakshmi, C. Viswanathan, N. Ponpandian, **Sustainable Energy & Fuels** 5 (22), 5851-5865 (2021). DOI:10.1039/D1SE01563J. **Impact Factor: 6.813.**
3. Chitosan grafted Fe-doped WO_3 decorated with gold nanoparticles for stimuli-responsive drug delivery systems, R. Rajalakshmi, S. Sivaselvam, N. Ponpandian, **Materials Letters** 304, 130664 (2021). DOI: 10.1016/j.matlet.2021.130664. **Impact Factor: 3,574.**
4. Evolution of intrinsic 1-3D WO_3 nanostructures: Tailoring their phase structure and morphology for robust hydrogen evolution reaction, R. Rajalakshmi, A. Rebekah, C. Viswanathan, N. Ponpandian, **Chemical Engineering Journal** 428, 132013 (2022). DOI:



**Dr S. Sivaselvam (November 2016 - Till date]
University Research Fellow**

M. Sc. - Biotechnology, Bharathiar University,
Coimbatore

Research Area: Nanomaterials for Biomedical
Applications and Environmental Remediation.

Thesis: Chemical functionalization of graphene oxide and graphene oxide quantum dots as a route to enhance their biocompatibility through in-vitro and in-vivo models and their applications in biomedical and wastewater remediation

Publications:

1. Enhanced removal of emerging pharmaceutical contaminant ciprofloxacin and pathogen inactivation using morphologically tuned MgO nanostructures, S Sivaselvam, P Premasudha, C Viswanathan, N Ponpandian, **Journal of Environmental Chemical Engineering 8**, 104256 (2020). DOI: 10.1016/j.jece.2020.104256. **Impact Factor: 7.968.**
2. Engineering the surface of graphene oxide with bovine serum albumin for improved biocompatibility in *Caenorhabditis elegans*, S Sivaselvam, A Mohankumar, G Thirupathi, P Sundararaj, C Viswanathan, N Ponpandian, **Nanoscale Advances 2**, 5219-5230 (2020). DOI: 10.1039/D0NA00574F. **Impact Factor: 5.598.**
3. Rapid one-pot synthesis of PAM-GO-Ag nanocomposite hydrogel by gamma-ray irradiation for remediation of environment pollutants and pathogen inactivation, S. Sivaselvam, R. Selvakumar, C. Viswanathan and N. Ponpandian, **Chemosphere 275**, 130061 (2021). DOI: 10.1016/j.chemosphere.2021.130061. **Impact Factor: 8.943.**
4. One-step preparation of N-doped grapheme quantum dots with high quantum yield for bioimaging and highly sensitive electrochemical

detection of isoniazid, S.Sivaselvam, C. Viswanathan, N. Ponpandian, **Biomaterials Advances** **135**, 212731 (2022). DOI: 10.1016/j.bioadv.2022.212731. **Impact Factor: 8.457.**

5. Effect of gamma-ray irradiated reduced graphene oxide (rGO) on environmental health: An in-vitro and in-vivo studies, S. Sivaselvam, A. Mohankumar, R. Narmadha, R. Selvakumar, P. Sundararaj, C. Viswanathan, N Ponpandian, **Environmental Pollution** **318**, 120933 (2023)DOI: 10.1016/j.envpol.2022.120933. **Impact Factor: 9.988.**



Dr A. Rebekah (November 2015 - Till date]

M. Sc. - Physics, Bishop Huber College, Tiruchirappalli

Research Area: Nanomaterials For Energy Conversion and Storage Applications

Thesis: Tuning the Electrocatalytic Activity of $Mn_{1-x}(Ni/Zn)_xCo_2O_4$ Decorated on rGO, Doped rGO and $g-C_3N_4$ for Oxygen Evolution Reaction

Publications:

1. $MnCo_2O_4$ -rGO Hybrid Magnetic Nanocomposite Modified Glassy Carbon Electrode for Sensitive Detection of L-Tryptophan, A Rebekah, Thangavelu Kokulnathan, Tzyy-Jiann Wang, C Viswanathan, N Ponpandian, **Journal of The Electrochemical Society** **166**. B845-B852 (2019). DOI: 10.1149/2.1251910jes. **Impact Factor: 4.316.** .
2. Effect of cation substitution in $MnCo_2O_4$ spinel anchored over rGO for enhancing the Electrocatalytic Activity towards Oxygen Evolution Reaction (OER), A. Rebekah, E. Ashok Kumar, C. Viswanathan and N. Ponpandian, **International Journal of Hydrogen Energy** **45**, 6391-6403 (2020). **Impact Factor: 7.139.**
3. Zn-substituted $MnCo_2O_4$ nanostructure anchored over rGO for boosting the electrocatalytic performance towards methanol oxidation and oxygen evolution reaction (OER), A Rebekah, Sengeni Anantharaj, C Viswanathan, N Ponpandian, **International Journal of Hydrogen Energy** **45**, 14713-14727 (2020). DOI:

- 10.1016/j.ijhydene.2020.03.231. **Impact Factor: 7.139.**
4. Magnetic graphene/chitosan nanocomposite: A promising nano-adsorbent for the removal of 2-naphthol from aqueous solution and their kinetic studies, A Rebekah, G Bharath, Mu Naushad, C Viswanathan, N Ponpandian, **International Journal of Biological Macromolecules** **159**, 530-538 (2020). DOI: 10.1016/j.ijbiomac.2020.05.113. **Impact Factor: 8.025.**
 5. Magnetic nanoparticle-decorated graphene oxide-chitosan composite as an efficient nanocarrier for protein delivery, A. Rebekah, S. Sivaselvam, C. Viswanathan, D. Prabhu, Ravi Gautam and N. Ponpandian, **Colloids and Surfaces A: Physicochemical and Engineering Aspects** **610**, 125913 (2020). DOI: 10.1016/j.colsurfa.2020.125913. **Impact Factor: 5.618.**
 6. NiCo₂O₄ nanoparticles inlaid on sulphur, nitrogen doped and Co-doped rGO as efficient electrocatalysts for oxygen evolution and methanol oxidation reactions, A. Rebekah, C. Viswanathan and N. Ponpandian, **Nanoscale Advances** **3** (12), 3650-3650 (2021). DOI: 10.1039/D1NA00135C. **Impact Factor: 5.598.**
 7. Enhanced bifunctional aspects of oxygen vacancy rich cation substituted MnCo₂O₄ intercalated with g-C₃N₄ as an oxygen evolution and supercapacitor electrode, A. Rebekah, H. Amir, C. Viswanathan, N. Ponpandian, **International Journal of Hydrogen Energy**, **48** (16), 6384-6398 (2023) . DOI: 10.1016/j.ijhydene.2022.09.026. **Impact Factor: 7.139.**
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Dr D. Navadeepthy (October 2013 - Till date]

University Research Fellow

M. Sc. (Physics) : PSGR Krishnammal College, Coimbatore

Research Area: Magnetic Oxides

Thesis: Controlled synthesis of nanostructured normal and inverse spinel metal oxides on nitrogen doped graphene and conducting polymers for energy storage, conversion and biosensing applications

Publications:

1. N-doped Graphene/ZnFe₂O₄: A novel nanocomposite for intrinsic peroxidase based sensing of H₂O₂, D. Navadeepthy, A. Rebekah, C. Viswanathan and N. Ponpandian, **Materials Research Bulletin** **95**, 1-8 (2017). **Impact Factor: 5.60.**
 2. N-Doped graphene with anchored ZnFe₂O₄ nanostructures as an anode for lithium ion batteries with enhanced reversible capacity and cyclic performance, Dhandapani Navadeepthy, Subramani Bhuvaneshwari, Raju Prakash, Chinnusamy Viswanathan, Nagamony Ponpandian, **New Journal of Chemistry** **42**, 16564-16570 (2018). **Impact Factor: 3.925.**
 3. A nanocomposite of NiFe₂O₄-PANI as a duo active electrocatalyst toward the sensitive colorimetric and electrochemical sensing of ascorbic acid, D Navadeepthy, M Thangapandian, C Viswanathan, N Ponpandian, **Nanoscale Advances** **2**, 3481 – 3493 (2020). **DOI: 10.1039/D0NA00283F. Impact Factor: 5.598.**
 4. Boosting the kinetics of oxygen and hydrogen evolution in alkaline water splitting using nickel ferrite /N-graphene nanocomposite as a bifunctional electrocatalyst, D. Navadeepthy, A. Rebekah, C. Viswanathan and N. Ponpandian, **International Journal of Hydrogen Energy** **46** (41), 21512-21524 (2021). DOI: 10.1016/j.ijhydene.2021.03.244. **Impact Factor: 7.139.**
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Dr K. P. Remya [October 2012 - January 2018]

UGC-DAE CSR - Project Fellow

M. Sc. (Nanoscience and Technology) : Bharathiar University, Coimbatore

Research Area: Nanocomposite Exchange Spring Magnets, Perovskites

Thesis: Investigations on the Physico-Chemical and Microwave Absorbing Properties of Pure, Substituted and Composite BiFeO₃ Multiferroics

Publications:

1. Exchange spring magnetic behavior in $\text{BaFe}_{12}\text{O}_{19}/\text{Fe}_3\text{O}_4$ nanocomposites, K. P. Remya, D. Prabhu, S. Amirthapandian, C. Viswanathan, N. Ponpandian, **Journal of Magnetism and Magnetic Materials** **406**, 233-238 (2016). DOI: **10.1016/j.jmmm.2016.01.024**. Impact Factor: **3.097**.
2. Effect of Yb substitution on room temperature magnetic and dielectric properties of bismuth ferrite nanoparticles, K. P. Remya, S. Amirthapandian, M. Manivel Raja and N. Ponpandian, **Journal of Applied Physics** **120**, 134304 (2016). DOI: **10.1063/1.4964097**. Impact Factor: **2.877**.
3. Tailoring the morphology and size of perovskite BiFeO_3 nanostructures for enhanced magnetic and electrical properties, K. P. Remya, D. Prabhu, R. Justin Joseyphus, A. Chandra Bose, C. Viswanathan and N. Ponpandian, **Materials & Design** **192**, 108694 (2020). DOI:10.1016/j.matdes.2020.108694. Impact Factor: **9.417**.
4. Development of $\text{BiFeO}_3/\text{MnFe}_2\text{O}_4$ ferrite nanocomposite for enhanced magnetic and electrical properties, K P Remya, R Rajalakshmi, N. Ponpandian, **Nanoscale Advances** **2**, 2968 - 2976 (2020). DOI: 10.1039/D0NA00255K. Impact Factor: **5.598**.



Dr S. Priyatharshni [October 2012 - August 2, 2019]

DST - Junior Research Fellow

M. Sc. (Nanoscience and Technology) : Bharathiar

University, Coimbatore

Research Area: Perovskite Oxides

Thesis: Development of Morphologically Tuned Perovskite LaXO_3 [X=Mn,Co,Ni] Nanostructures as an Electrocatalyst for Selective and Sensitive Detection of Neurotransmitters Using Electrochemical Sensing

Publications:

1. Electrochemical simultaneous detection of dopamine, ascorbic acid and uric acid using LaMnO_3 nanostructures, S. Priyatharshni, M. Divagar, C.

Viswanthan, D. Mangalaraj and N. Ponpandian, **Journal of the Electrochemical Society** **163**, B460-B465 (2016). DOI: **10.1149/2.1181608jes**. **Impact Factor: 4.316**.

2. LaCoO₃ nanostructures modified glassy carbon electrode for simultaneous electrochemical detection of dopamine, ascorbic acid and uric acid, S. Priyatharshni, A. Tamilselvan, C. Viswanathan and N. Ponpandian, **Journal of The Electrochemical Society** **164**, B152-B158 (2017). DOI: 10.1149/2.1391704jes. **Impact Factor: 4.316**.
 3. Morphologically tuned LaMnO₃ as an efficient nanocatalyst for the removal of organic dye from aqueous solution under sunlight, S. Priyatharshni, S. Rajesh Kumar, C. Viswanathan, N. Ponpandian, **Journal of Environmental Chemical Engineering** **8**, 104146 (2020). DOI: 10.1016/j.jece.2020.104146. **Impact Factor: 7.968**.
 4. Highly stable and Selective LaNiO₃ Nanostructures Modified Glassy Carbon Electrode For Simultaneous Electrochemical Detection of Neurotransmitting Compounds, S. Priyatharshni, D. Navadeepthy, G. Srividhya, C. Viswanathan and N. Ponpandian, **Colloids and Surfaces A: Physicochemical and Engineering Aspects** **6**, 126387 (2021). DOI: **Impact Factor:5.618**.
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Picture

Dr G. Bharath [October 2011- Till date]

UGC - Project Fellow and CSIR - SRF

Image not found or type unknown

M. Sc. (Nanoscience and Technology) : Bharathiar University, Coimbatore
Research Area : Graphene Based Nanocomposites

Thesis: Development of Graphene Based Binary/Ternary Nanocomposites and Systematic Study on their Physico-Chemical, Bio-Physical and Electrochemical Properties

Publications:

1. Shape evolution and size controlled synthesis of mesoporous hydroxyapatite nanostructures and their morphology dependent Pb(II)

removal from waste water, G. Bharath, A. Jagadeesh Kumar, K. Karthick, D. Mangalaraj, C. Viswanathan and N. Ponpandian, *RSC Advances*, **4**, 13409-13418 (2014). **DOI:10.1039/C4RA07318E. Impact Factor: 3.049.**

2. Facile in-situ growth of Fe₃O₄ nanoparticles on hydroxyapatite nanorods for pH dependent adsorption and controlled release of proteins, G. Bharath, D. Prabhu, D. Mangalaraj, C. Viswanathan and N. Ponpandian, *RSC Advances*, **4**, 13409-13418 (2014). **DOI:1039/C4RA06929C. Impact Factor: 3.049.**
3. Enzymatic electrochemical glucose biosensors by mesoporous 1D hydroxyapatite-on-2D reduced graphene oxide, G Bharath, Rajesh Madhu, Shen-Ming Chen, VEDIAPPAN VEERAMANI, A Balamurugan, D Mangalaraj, C Viswanathan, N Ponpandian, *Journal of Materials Chemistry B* **3**, 1360 – 1370 (2015). **DOI: 10.1039/c4tb01651c. Impact Factor: 5.047.**
4. Solvent-free mechanochemical synthesis of graphene oxide and Fe₃O₄-reduced graphene oxide nanocomposite for sensitive detection of nitrite, G. Bharath, Rajesh Madhu, Shen-Ming-Chen, VEDIAPPAN VEERAMANI, D. Mangalaraj and N. Ponpandian, *Journal of Materials Chemistry A* **3**, 15529-15539 (2015). **DOI: 10.1039/C5TA03179F. Impact Factor: 10.733.**
5. Edge-carboxylated graphene anchoring magnetite/hydroxyapatite nanocomposite for an efficient 4-nitrophenol sensor, G. Bharath, VEDIAPPAN VEERAMANI, Shen-Ming Chen, Rajesh Madhu, M. Manivel Raja, A. Balamurugan, D. Mangalaraj, C. Viswanathan and N. Ponpandian, *RSC Advances* **5**, 13392-13401 (2015). **DOI: 10.1039/c4ra16035e. Impact Factor: 3.049.**
6. Hydroxyapatite nanoparticles on dendritic α -Fe₂O₃ hierarchical architectures for a heterogeneous photocatalyst and adsorption of Pb (ii) ions from industrial wastewater, G Bharath, N Ponpandian, *RSC Advances* **5**, 84685 – 84693 (2015). **DOI: 10.1039/C5RA15703J. Impact Factor: 3.049.**
7. Enhanced electrocatalytic activity of gold nanoparticles on hydroxyapatite nanorods for sensitive hydrazine sensors, G. Bharath, A. Naldoni, K. Hasini Ramsait, A. A. Wahab, M. Rajesh, A. H. Edreese and N Ponpandian, *Journal of Materials Chemistry A* **4**, 6385 – 6394 (2016). **DOI:10.1039/C6TA01528J. Impact Factor: 10.733.**
8. Enhanced hydroxyapatite nanorods formation on graphene oxide nanocomposite as a potential candidate for protein adsorption, pH

controlled release and an effective drug delivery platform for cancer therapy, G Bharath, B Swarna Latha, Edreese H Alsharaeh, P Prakash, N Ponpandian, *Analytical Methods* **9**, 240-252 (2017). **DOI:**

10.1039/C6AY02348G, Impact Factor: 2.378.

9. Designed synthesis of nanostructured magnetic hydroxyapatite based drug nanocarrier for anti-cancer drug delivery toward the treatment of human epidermoid carcinoma, G. Bharath, B. Swarna Latha, N. Ponpandian, Ahmed Faheem, A. Saifi Muheet, H. Abdel, A. Saleh, M. Lamjed and Alsharaeh H Edreese, *Nanomaterials* **7**, 138-1-16 (2017).

DOI:10.3390/nano7060138. Impact Factor: 4.034.

10. Development of adsorption and electrosorption techniques for removal of organic and inorganic pollutants from wastewater using novel magnetite/porous graphene-based nanocomposites, G Bharath, Emad Alhseinat, N Ponpandian, Moonis Ali Khan, Masoom Raza Siddiqui, Faheem Ahmed, Edreese H Alsharaeh, *Separation and Purification Technology* **189**, 206-218 (2017). **DOI:**

10.1016/j.seppur.2017.07.024. Impact Factor: 5.33.

Present Position: Post-Doctoral Fellow, Khalifa University of Science and Technology, Abu Dhabi, UAE.

Picture

Dr S. Rajesh Kumar [October 2009 - March 2014]

DST - PURSE - Project Fellow

Image not found or type unknown

M. Sc. (Nanoscience and Technology) : Bharathiar University, Coimbatore
Research Area : Biomedical Applications of Magnetic Nanoparticles

Thesis: Monodispersed Superparamagnetic Fe₃O₄ Nanoparticles: Development, Surface Modification and their Applications in Biomedical Environmental Remediation and Energy Storage Devices

Publications

1. Surfactant free solvothermal synthesis of monodispersed 3D hierarchical Fe₃O₄ microspheres, S. Rajesh Kumar, M. Manivel Raja, D. Mangalaraj, C. Viswanathan and N. Ponpandian, *Materials Letters* 110, 98-101 (2013). DOI: 10.106/j.matlet.2013. 08.005, Impact Factor: 3.019.
2. Hydrophilic polymer coated monodispersed Fe₃O₄ nanostructures and their toxicity, S. Rajesh Kumar, Lucafò Marianna, Sava Gianni, A. Joseph Nathanael, S. I. Hong, Tae Hwan Oh, D. Mangalaraj, C. Viswanathan and N. Ponpandian, *Materials Research Express* 1, 015015-1-15 (2014). DOI:10.1088/2053-1591/1/1/015015. Impact Factor: 1.449.
3. An in-vitro analysis of H1N1 viral inhibition using polymer coated superparamagnetic Fe₃O₄ nanoparticles, S. Rajesh Kumar, M. Paulpandi, M. Manivel Raja, D. Mangalaraj, C. Viswanathan, S. Kannan and N. Ponpandian, *RSC Advances* 4, 13409 – 13418 (2014). DOI:10.1039/C3RA47542E. Impact Factor: 3.049.
4. Quercetin loaded superparamagnetic Fe₃O₄ nanoparticles for in-vitro analysis of breast cancer cell lines for chemotherapy applications, S. Rajesh Kumar, S. Priyatharshni, V. N. Babu, D. Mangalaraj, C. Viswanathan, S. Kannan and N. Ponpandian, *Journal of Colloid and Interface Science*, 436, 234-242 (2014). DOI: 10.1016/j.jcis.2014.08.064. Impact Factor: 6.361.
5. Facile synthesis of yeast cross-linked Fe₃O₄ nanoadsorbents for efficient removal of aquatic environment contaminated with As (V), S. Rajesh Kumar, V. Jayavignesh, R. Selvakumar, K. Swaminathan, N. Ponpandian, *Journal of Colloid and Interface Science* 484, 183-195 (2016). DOI:10.1016/j.jcis.2016.08.081. Impact Factor: 6.361.
6. Enhanced visible light photocatalytic activity of porous LaMnO₃ sub-micron particles in the degradation of rose bengal, S. Rajesh Kumar, C.V. Abinaya, S. Amirthapandian, N. Ponpandian, *Materials Research Bulletin* 93, 270-281 (2017). DOI: 10.1016/ j.materresbull.2017.05.024. Impact Factor: 3.355.
7. Facile synthesis of monodispersed 3D hierarchical Fe₃O₄ nanostructures decorated r-GO as the negative electrodes for Li-ion batteries, S. RajeshKumar, Jong Guk Kim, C. Viswanathan, Won Bae Kim, R. Kalai Selvan, N. Ponpandian, *Materials Research Bulletin*, 97, 272-280 (2018). DOI: 10.1016/j.materresbull.2017.08.030, Impact Factor: 3.355.
8. Synergetic effects of thymoquinone-loaded porous PVPylated Fe₃O₄ nanostructures for efficient pH-dependent drug release and anticancer

potential against triple-negative cancer cells, Rajesh S Kumar, Ramar Thangam, Raju Vivek, Sivasubramanian Srinivasan, Ponpandian Nagamony, *Nanoscale Advances* 2, 3209-3221 (2020). DOI: 10.1039/D0NA00242A.

Position: Post-Doctoral Fellow, Chang Gung University, Taiwan



Dr C. Madan Kumar [July 2009 - Till Date]

UGC- RGNF

M. Sc.

Research Area : Nanomaterials for Magnetocaloric Applications

Thesis: Magnetocaloric effect in Rare-Earth Based Ball Milled Nanoparticles and Bulk Alloys for the Application of Magnetic Refrigeration



Dr I. Reeta Mary [April 2009 - Till Date]

M. Sc. (Physics): Loyola College, Chennai

Research Area : HAp/Metal Oxide Nanocomposites for Environmental Remediation

Thesis: Morphological Evaluation of Hydroxyapatite/Metal Oxide Nanocomposites and Their Surface Reactivity for Photocatalysis and Heavy Metal Removal

Publications:

1. Novel multiform morphologies of hydroxyapatite: Synthesis and growth mechanism, I Reeta Mary, S Sonia, S Viji, D Mangalaraj, C Viswanathan, N Ponpandian, **Applied Surface Science** **361**, 25-32, (2016). DOI 10.1016/j.apsusc.2015.11.123. **Impact Factor: 7.392.**
2. Surfactant-free solvothermal synthesis of hydroxyapatite nested bundles for the effective photodegradation of cationic dyes, I. Reeta Mary, S. Sonia, D. Navadeepthy, D. Mangalaraj, C. Viswanathan, N. Ponpandian, **Journal of Physics and Chemistry of Solids**, **116**, 180-186 (2018). DOI: 10.1016/j.jpccs.2018.01.035. **Impact Factor: 4.383.**
3. Self-Assembly of nanostructured hydroxyapatite spheres for photodegradation of methylene blue dye, I. Reeta Mary, R. Leethiyal, P. Sekar, D. Mangalaraj, C. Viswanathan and N. Ponpandian, **Materials Today : Proceedings** **18**, 1729-1734 (2019). DOI: 10.1016/j.matpr.2019.05.270. **Impact Factor: 2.752.**

Position: Associate Professor in Physics, Government Arts College, Coimbatore



Dr S. Thirumalairajan (April 2009 - July 2013)

Jawaharlal Nehru Memorial Research Fund

M. Sc. (Physics) : Ramakrishna Mission Vidyalaya, Coimbatore

Research Area: Perovskite Oxides for Chemical Sensors

Thesis Title: Nanostructures and Thin Films of Perovskite LaFeO₃ : Morphology Dependent Properties and their Biosensing, Photocatalytic and Gas Sensing Applications.

Publications:

1. Controlled synthesis of perovskite LaFeO₃ microsphere composed of nanoparticles via self-assembly process and their associated

- photocatalytic activity, S. Thirumalairajan, K. Girija, I. Ganesh, D. Mangalaraj, C. Viswanathan, A. Balamurugan, and N. Ponpandian, **Chemical Engineering Journal**, **209**, 420-428 (2012). DOI:10.1016/j.cej.2012.08.012. **Impact Factor: 16.744.**
2. Novel synthesis of LaFeO_3 nanostructure dendrites: A systematic investigations on growth mechanism, properties and biosensing for high selective determination of neurotransmitter compound, S. Thirumalairajan, K. Girija, K. Ganesh, D. Mangalaraj, C. Viswanathan and N. Ponpandian, **Crystal Growth & Design** **13**, 291-302 (2013). DOI:10.1021/cg3014305, **Impact Factor: 4.010.**
 3. Shape evaluation of perovskite LaFeO_3 nanostructures : a systematic investigation of growth mechanism, properties and morphology dependent photocatalytic activities, S. Thirumalairajan, K. Girija, Neha Y. Hebalkar, D. Mangalaraj, C. Viswanathan and N. Ponpandian, **RSC Advances** **3**, 7549-7561 (2013). DOI: 10.1039/c3ra00006k, **Impact Factor: 4.036.**
 4. Detection of neurotransmitter compound dopamine by modified glassy carbon electrode with self-assembled perovskite LaFeO_3 microspheres constructed of nanospheres, S. Thirumalairajan, K. Girija, Valmor R. Mastelaro, V. Ganesh and N. Ponpandian, **RSC Advances** **4**, 25957-25962 (2014). DOI: 10.1039/C4RA03467H. **Impact Factor: 4.036.**
 5. Surface morphology dependent room temperature LaFeO_3 nanostructure thin films as selective NO_2 gas sensor prepare by radio frequency magnetron sputtering, S. Thirumalairajan, K. Girija, Mastelaro R Valmor and N. Ponpandian, **ACS Applied Materials and Interfaces** **6**, 13917-13927 (2014) : DOI: 10.1021/am503318y. **Impact Factor: 10.383.**
 6. Photocatalytic degradation of organic dyes under visible light irradiation by floral like LaFeO_3 nanostructures composed of nanosheet petals, S. Thirumalairajan, K. Girija, Mastelaro R Valmor and N. Ponpandian, **New Journal of Chemistry** **38**, 5480-5490 (2014) :DOI: 10.1039/C4NJ01028A. **Impact Factor: 3.925.**
 7. Investigation on magnetic and electric properties of morphologically different perovskite LaFeO_3 nanostructures, S. Thirumalairajan, K. Girija, Valmor R. Mastelaro, N. Ponpandian, **Journal of Materials Science: Materials in Electronics** **26**, 8652-8662 (2015). DOI 10.1007/s10854-015-3540-z. **Impact Factor: 2.779.**

Present Position: Post-Doctoral Fellow, Instituto de Fisica de Sao Carlos, Universidade de Sao Paulo, Brazil.

Ph.D. - Ongoing

Mr. A. K. Sethu Raj

Research Topic : Nanomaterials for Sensors.

Date of Joining: November 2022

Mr. Praveen Kumar

Research Topic : Nanomaterials for Sensors.

Date of Joining: March 2022

Ms. M. Keerthana

Research Topic : Nanomaterials for Energy Devices.

Date of Joining: January 2022



Ms. G. Srividhya

Research Topic : Nanomaterials for CO₂ reduction.

Date of Joining: July 2019



Ms. T. Sangavi

M. Sc. - Physics - Mother Teresa Womens University, Kodakanal

Research Topic : Solar Cells.

Date of Joining: July 2018

M.Phil.

Ms N. Malathy

Thesis Title: Novel Synthesis Route for CuO and ZnO Nanostructures

Year: 2009.

Ms V. Sriuma

Thesis Title: Ellipsometric Studies on Copper Nanostructured Thin Films

Year: 2009.

Mr S. Premkumar

Thesis Title: DC Reactive Sputtered Nanostructured Al₂O₃ Thin Films for MOSFETt and MOS Capacitors

Year: 2010.

Ms A. Lathamaragatham

Thesis Title:: Nanoparticles of Nickel Hydroxide and Nickel Oxide by Solution-Phase Precursor Route

Year: 2010

Ms M. Sridevi

Thesis Title: Investigations on the Growth Parameters of ZnO by Chemical Vapour Transport Method

Year: 2010.

Ms Cloverly John

Thesis Title: Hydrothermally Synthesized Nanostructured α -Ga₂O₃ and its Optical Properties

Year: 2011.

Ms A. Ishwarya

Thesis Title: Novel Synthesis and Characterization of Blue Emitting ZnSe Quantum Dots

Year: 2011.

Ms A. Kalaiselvi

Thesis Title: Synthesis and Characterization of Pure and Quinoline, Imidazole Incorporated Copper Nanoparticles and its Antimicrobial Activity

Year: 2011.

Ms S. Priyatharshni

Thesis Title: Synthesis and Characterization of Co and Mn-doped ZnO Nanoparticles

Year: 2011.

Ms R. Kumuthini

Thesis Title: Influence of Fe in the Structural, Optical and Magnetic Properties of Zinc Oxide Nanoparticles

Year: 2012

Ms N. Seethalakshmi

Thesis Title: In-Vitro Studies of Antibiotic Ciprofloxacin Loaded Natural Biopolymeric Nanoparticles

Year: 2012.

Mr D. Ranjith Kumar

Thesis Title: The Enhanced Photocurrent Measurement on Sm Doped Vertically Aligned ZnO Nanorod Arrays

Year: 2013.

Ms V. Preethi

Thesis Title: Ionic Substitution of Calcium Phosphate Bio-Ceramics Coating on 316L SS Surgical Grade For Implant Applications

Year: 2013.

Mr A. Kanakaraj

Thesis Title: Development of Nanostructured TiO₂ Decorated With Silver as an Antimicrobial Agent

Year: 2013.

Ms A.S. Ghayathri Sri

Thesis Title: Electrochemical Detection of Dopamine by Graphene Oxide / Palladium Nanocomposites

Year: 2013.

Ms T.Neethi

Thesis Title: Amine functionalized diatom frustules: A platform for selective and sensitive detection of 4-nitrotoluene

Year: 2014.

Ms.M.Perachiselvi

Thesis Title: Hydrothermally derived MnO₂ as a electrochemical platform for the detection of Salmonella typhimurium

Year: 2015.

Ms P. Nithya

Thesis Title: Ready to use Optical biosensor based on Amine functionalized diatom frustules for the detection of Dengue virus

Year: 2015.

Mr S Sivaselvam

Thesis Title: A study on solvothermally synthesized Fe₃O₄ as a potential adsorbent for the adsorption of Salmon sperm DNA

Year: 2015.

PG (M.Sc.)

1. Ms B. Kavitha

Synthesis Of Dendritic and Spherical Nanocrystalline Copper

2009

2. Ms Lakshmy Ravindran
Synthesis and Characterization of Nano Nickel by Novel Chemical Method
2009
3. Mr S. Rajesh Kumar
Surfactant Coated Superparamagnetic Iron Oxide Nano Particles For
Magnetic Hyperthermia
2009
4. Ms T. K. Saibunisha
Influence on Reducing Agent in The Formation of γ -Fe₂O₃ And Fe₃O₄
Nanoparticles in Hydrothermal Reaction
2009
5. Ms V. Umamaheswari
Amino Acid Mediated Synthesis and Characterization of Ag Nanoparticles and
Thin Films
2009
6. Ms E. Angelin
Morphological Aspects of Metal Nanoclusters
2010
7. Ms T. Dhivya
Nanostructured Metallic Anode for Thin Film Li-Ion Batteries
2010
8. Ms T. Gowthami
Synthesis and Luminescence Studies of Zinc Oxide Based Phosphors
2010
8. Ms R. Kanimozhi
Synthesis and Characterization of ZnO Nanofibers by Electrospinning
Method
2010
10. Ms S. Priyadharshni
Structural and Morphological Studies of Nanocrystalline Nd_{1-x}Ca_{0.3}MnO₃
For Magnetocaloric Applications
2010

11. Mr M. Sekar
Mechanical Characterization of CrN/Cu Nanocomposite Thin Films
2010
12. Mr G. Sriram
Microstructure and Optical Reflectivity Studies on Ultra Thin Ag Films
2010
13. Mr R. Boopathi
Development of Co₂FeSi Thin Films for Spintronics Applications
2011
14. Mr R. Ramachandran
Thermal Plasma Process for Synthesis of Silver Nanoparticles and Study of its Properties
2011
15. Ms K. P. Remya
Thermal Stability of Silver Quantum Clusters
2011
16. Mr M. VEDI KUZIL AZHAGAN
Applications of Soft Lithography in Materials
2011
17. Ms J. Jose Annsi
Chemical Synthesis of Zinc Oxide Micro/Nanoparticles
2012
18. Mr A. Manikandan
Solid State NMR Studies on CdS/Zn(OH)₂ Core Shell Nanostructures
2012
19. Ms S. Saroja
Preparation and Characterization of Carbon Nanotubes and CNT/PDMS Nanocomposite Coatings
2012
20. Mr S. Viswanathan
Preparation of Varistor from Doped Nanocrystalline ZnO Powders
2012

21. Ms Bhaarathy Velmurugan
In-Vitro Studies for Cardiac and Skin Tissue Engineering Using Electrospun Nanofibrous Scaffolds
2013
22. Ms E Dhivya
Electrochemical Investigations of Nanocomposites for Supercapacitor and Glucose Sensor
2013
23. Ms A. Esakkiammal
Synthesis of ZnS Nanoparticles and Their Conversion into ZnO Nanoparticles
2013
24. Ms Hemalatha Bhojan
Organic Compounds Coated Cadmium Sulphide Quantum Dots Using Radiation Techniques
2013
25. Ms S. Pavithra
Enhanced Functional Properties of Graphene Oxide – Poly (3-Hexylthiophene) Nanocomposites via In-Situ Catalyst Method
2014
26. Ms S. R. Sonia
Morphological Dependent Photocatalytic Activity Of LaMnO₃ Nanostructures
2014
27. Mr Wesley J Sachin Dev
Surfactant Assisted Synthesis Of CeO₂ And Ce_{0.6}Zr_{0.4}O₂ Nanofluids and their Thermophysical Properties
2014
28. Mr S. Iyappan
Study Of γ -Fe₂O₃ Based Mixed Oxide Nanocomposite Sensors For Acetone And Ethanol Vapor Sensing Applications
2014
29. Ms J. Srilakshmi
H₂O₂activated carbonized cotton for supercapacitor
2015

30. Ms K Deepa

In-situ fabrication and spectroscopic investigations of Zinc oxide nanoparticles doped on optical fiber for humidity sensor

2015

31. Mr. S Krishna

Strain Engineering in graphene (In terms of biaxial Strain)

2016

32. Mr N Raja

Redox Interplay between Copper(I/II) in activation of Small molecules

2016

33. Ms Rajalakshmi R

Investigation of Nanomechanical properties of Ba_{0.85}Ca_{0.15}Zr_{0.1}Ti_{0.9}O₃ Thin films deposited by PLD

2016

34. Ms Shaleni V

Magnetocaloric Properties of Gd Thin Films for Room Temperature magnetic refrigeration Applications

2017

35. Ms Archana A

Synthesis and characterization of Silver-Copper (Ag-Cu) Nanoalloy for Ink-Jet Printable electronics application

2017

36. Ms B. Sri Hari Priya

Hybrid Nanocomposites of Magnetic Nanoparticles with Polythiophene for Optoelectronic applications

2017

37. Ms G. Thirumoorthy

Synthesis, Characterization and Biocompatibility of reduced graphene oxide by gamma ray irradiation

2018

38. Ms M Thangapandian

A non-enzymatic sensing of H₂O₂ and ascorbic acid using nickel ferrite-polyaniline blended nanocomposite

2018

39. Mrs.R Shruthi

Synthesis of Graphitic Carbon Nitride and its composite with spinel oxide for electrocatalytic oxidation of methanol in DMFC

2018

40. Ms. R. L Karthika

Synthesis and electrochemical characterization of pure and MnFe₂O₄/rGO nanocomposites for supercapacitor application

2018

41. Ms K Gayathri

Investigation on the effect of Order-Disorder Phase Transition on the Ionic Conductivity of Nd_{2-x}Y_xZr₂O₇

2019

42. Mr.S Manobalan

Synthesis and Structural evaluation of selective rare-earth substitutions in yttrium aluminum garnet (YAG) for bio-imaging applications

2019

43. Ms. M Keerthana

Synthesis and Characterization of LaVO₃ nanoparticles by Hydrothermal method

2019

44. Mr. A Karthi Keyan

Gamma ray irradiated synthesis, characterization and catalytic application of PAM/Graphene/Ag ternary hydrogel

2019

45. Mr. Ashok Kumar E

Spinel ZnCO₂O₄-Graphene hybrid nanofibers as Electrocatalyst for Oxygen Evolution Reaction (OER)

2019

46. Mr. K M Rathish

Ca²⁺ Ion induced effects in Ionic conductivity of nanocrystalline Y₂Zr₂O₇: A detailed study.

2019

47. Ms M. Karthiga

Supercapacitive activity of Lanthanum Oxide and Lanthanum Oxide/Graphene Oxide Composite on the Flexible Substrate
2020

48. Ms P. S. Monalisha

Colorimetric Peroxidase Sensing of Hydrogen Peroxide by WS₂/rGO Nanocomposite
2020

49. Ms S. Sruthi

Synthesis and Characterization of Heteroatom (S, B, & P) Doped Cerium Oxide for Enhanced Catalytic Activity Towards Oxygen Evolution Reaction (OER)
2020

50. Ms N. Bharani Shri

Synthesis, Preparation and Characterization of g-C₃N₄ Active Material and Carbonized Melamine Electrode for Supercapacitor Applications
2020

51. Ms M. Revathi

Transition Metal Ions (Co, Ni and Mo) Doped Samarium Oxide Nanoparticles for the Application of High Performance Supercapacitor
2020

52. Ms A. M. Aarcha

Spinel NiCo₂O₄/rGO Nanocomposite as an Electrocatalyst for Oxygen Evolution Reaction (OER)
2020

53. Ms T. Aarthi

Spinel NiCo₂O₄/Polypyrrole Nanocomposite as an electrocatalyst support for Oxygen Evolution Reaction (OER)
2020

54. Ms S. Keerthana

Synthesis of Graphitic carbon nitrate (g-C₃N₄) beads for photocatalytic application
2020

55. Ms B. K. Suhashini

Synthesis and Characterization of Indium Sulphide (In_2S_3) for its Photocatalytic Application

2020

56. Mr. Ahmad Muhammad Aliyu

Synthesis and Characterization of g-C₃N₄/Au/Ag nano-composite as an efficient catalyst for degradation of pollution

2021

57. Ms P. Manju

Cyclic Voltammetry Analysis of Liquid Exfoliated Tungsten Disulfide (WS_2) for the Detection of Hydroquinone

2021

58. Mr P. Naveen Kumar

Sm doped WO_3 as a bifunctional photocatalyst for hydrogen evolution reaction (HER) and oxygen evolution reaction (OER)

2021

59. Mr. B. Sharukhan

Synthesis and characterisation of highly porous SmSrMMnO_3 ($M = \text{Fe, Co}$) layered double perovskite oxide for efficient energy storage application

2021

60. Ms R. Aiswarya

Studies on metal doping in precursor modified g-C₃N₄

2021

61. Ms R. Laxna

Boosting the performance of supercapacitor using Interfacial Engineering of MoS_2 on the electroactive Nickel Boride

2022

62. Ms S. A. Ilakeya

Electrochemical detection of redox-active Pyocyanin expressed by *Pseudomonas aeruginosa* by Nanodiamond embedded WS_2 nanosheets

2022

63. Ms K. Parkavi

Potato Starch Derived N-Doped Carbon Quantum Dots as a Fluorescent

Sensing Tool for Ascorbic Acid
2022

64. Ms I. G. Haritha
Synthesis and Characterization of Vanadium based Metal Organic Framework (MIL-47) for Glucose Sensing Application – An Electrochemical Approach
2022

65. Ms V. Padmavathy
Synthesis, Characterization and Electrochemical Analysis of MXene and Nickel Vanadium Layered Double Hydroxide for Supercapacitor Applications
2022

66. Ms S. Madhumitha Shree
Electrochemical Detection of Acrylamide Using Au@Ag Core-Shell/Hb Modified MXene Biosensor
2022

Research Publication

- [International](#)
- [National](#)
- [Patents](#)
- [Conferences](#)
-
- [Books/Chapters](#)
- [Database](#)

Reverse Chronological Order

2021

193. [Sm³⁺ rare-earth doping in non-noble metal oxide-WO₃ grown on carbon cloth fibre as a bifunctional electrocatalyst for high-performance water electrolysis](#)

R Rajalakshmi, C. Viswanathan, N. Ponpandian

Sustainable Energy & Fuels In Press (2021).

192. [Self-assembled \$\text{Co}_3\text{O}_4\$ nanospheres on N-doped reduced graphene oxide \(\$\text{Co}_3\text{O}_4/\text{N-RGO}\$ \) bifunctional electrocatalysts for cathodic reduction of \$\text{CO}_2\$ and anodic oxidation of organic pollutants](#)

G. Bharath, K. Rambabu, C. Aubry, Abu Mohammad Haija, Ashok Kumar, N. Ponpandian; Banat, Fawz

ACS Applied Energy Materials 4, 11408 – 11418 (2021).

191. [ZnO-based electrochemical sensors for highly sensitive and selective detection of gallic acid at impact of substrate temperature](#)

H Amir, D Murugesan, N Ponpandian, C Viswanathan

Applied Physics A 127, 802 (2021).

190. [Development of RF magnetron-sputtered molybdenum oxide-modified carbon cloth thin film as a ferulic acid sensor](#)

D Murugesan, H Amir, N Ponpandian, C Viswanathan

Applied Physics A 127, 805 (2021).

189. [Enriched oxygen vacancy promoted heteroatoms \(B, P, N, and S\) doped \$\text{CeO}_2\$: Challenging electrocatalysts for oxygen evolution reaction \(OER\) in alkaline medium](#)

A. Rajapriya, S. Keerthana, A. Rebekah, C. Viswanathan and N. Ponpandian

International Journal of Hydrogen Energy 46, 37281 – 37293 (2021).

188. [Dual-functional paired photoelectrocatalytic system for the photocathodic reduction of \$\text{CO}_2\$ to fuels and the anodic oxidation of furfural to value-added chemicals](#)

G Bharath, K Rambabu, Abdul Hai, N Ponpandian, Jens Ejbye Schmidt,

Dionysios D Dionysiou, Mohammad Abu Haija, Fawzi Banat

Applied Catalysis B: Environmental 298, 120520 (2021).

187. [Evolution of intrinsic 1-3D \$\text{WO}_3\$ nanostructures: tailoring their phase structure and morphology for robust hydrogen evolution reaction](#)

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