



Bharathiar University

State University | "A++" Grade by NAAC | 26th Rank in MoE-NIRF
Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

Dr N PONPANDIAN Professor and Head Department of Nanoscience and Technology Bharathiar University Coimbatore, 641046 Tamil Nadu E-mail: ponpandian@buc.edu.in Phone: 9443552271 Office Number: 04222428421	
Research Area • Water Splitting • Supercapacitors • Sensors • Solar Cells	Courses Teaching • Physics of Nanomaterials • Nanoelectronics and Nanophotonics • Environmental Sustainability of Nanomaterials • Nanomagnetism
Research Experience: 25	Teaching Experience: 17
Research Credentials (as on April 2025 – Source: Google scholar) H-index: 62 Citations: 13268 i10-index: 203	
Patents : Granted: 3 Filed: 4	
Publications International Journals: 121 Books/Chapters: 23 National Journals: 7 Publication Database: 8 Conferences: 2	
Career Other Institutes Designation : Post Doctoral Fellow Institution Name : University of Neraska, Lincoln, USA Period : October 2007 - February 2008 Designation : Post Doctoral Fellow Institution Name : University of Madras, Chennai Period : November 1996 - March 1999 Designation : Post Doctoral Fellow Institution Name : Free University of Berlin, Germany Period : May 2003 - December 2006 Designation : Post Doctoral Fellow Institution Name : University of Rostock, Germany Period : January 2007 - September 2007 Designation : Post Doctoral Fellow Institution Name : Indian Institute of Science, Bangalore Period : August 2002 - April 2003 Designation : Post Doctoral Fellow Institution Name : University of Madras, Chennai Period : April 1999 - March 2002 At Bharathiar University Designation : Professor Period : March 2014 - Till Date	



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State University I "A++" Grade by NAAC I 26th Rank in MoE-NIRF
Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

Dr N PONPANDIAN , Professor and Head , Department of Nanoscience and Technology

2. Designation : Associate Professor

Period : March 2011 - February 2014

3. Designation : Reader

Period : February 2008 - February 2011

Education

D.Sc

Subject : Physical Science

Institution : Alagappa University

Affiliated University : Alagappa University, Karaikudi

Year of Award : September 2024

Ph. D.

Subject : Physics

Institution : Department of Nuclear Physics

Affiliated University : University of Madras, Chennai

Year of Award : February 2003

M. Phil.

Subject : Physics

Institution : Ayya Nadar Janaki Ammal College, Sivakasi

Affiliated University : Madurai Kamaraj University, Madurai

Year of Award : April 1996

M. Sc.

Subject : Physics

Institution : Ayya Nadar Janaki Ammal College, Sivakasi

Affiliated University : Madurai Kamaraj University, Madurai

Year of Award : April 1995

B. Sc.

Subject : Physics

Institution : Vivekananda College, Agasteeswaram

Affiliated University : Madurai Kamaraj University, Madurai

Year of Award : April 1992

Projects

National Level

Ongoing - 3 completed - 13

Research Guidance

Completed

Ph.D. - 17 Post-Doc - 3

On Going

Ph.D. - 5 Post-Doc - 1

Institutional Responsibilities

Director, IQAC

Period : Jul 2016 - Jul 2016

Nature of Responsibility :

Controller of Examinations

Period : Jul 2023 to Till date

Nature of Responsibility :

Senate Member

Period : Jul 2015 to Till date

Nature of Responsibility :



Standing Committee on Academic Affairs Member

Period :Jul 2015 to Till date

Nature of Responsibility :

International Rankings Coordinator

Period :Jan 2018 to Till date

Nature of Responsibility :

AISHE – Coordinator

Period :Jan 2018 to Till date

Nature of Responsibility :

Head of the Department

Period :Jul 2015 to Till date

Nature of Responsibility :

Innovation and Incubation Centre

Period :Jul 2018 - Jul 2018

Nature of Responsibility :

Institution Innovation Council – President

Period :Jul 2019 - Jul 2019

Nature of Responsibility :

RUSA - Board of Governor

Period :Apr 2018 to Till date

Nature of Responsibility :

DST – FIST - Coordinator

Period :Apr 2014 to Till date

Nature of Responsibility :

UGC – SAP - Coordinator

Period :Apr 2016 to Till date

Nature of Responsibility :

DST – PURSE - Member

Period :Apr 2011 - Apr 2011

Nature of Responsibility :

National Institutional Ranking Framework (NIRF) - Nodal Officer

Period :Jan 2016 - Jan 2016

Nature of Responsibility :

Study-in-India (SII), MHRD - Coordinator

Period :Jan 2018 - Jan 2018

Nature of Responsibility :

UGC- Project Execution Group

Period :Jan 2019 to Till date

Nature of Responsibility :

University Grants Commission - Nodal Officer

Period :Jan 2019 to Till date

Nature of Responsibility :

DRDO PHASE – I Projects, Project Investigator

Period :Jul 2008 to Till date

Nature of Responsibility :

DRDO PHASE – I Projects (Physics Division), Project Director (i/c)

Period :Jan 2009 to Till date

Nature of Responsibility :



Visits

1. Visiting Scientist, Institute of Experimental Physics, Free University of Berlin, Berlin, Germany (2006-12-31 - 2003-05-01)

Collaborations

1. Collaborative Research Project throughh UGC-DAE CSR (2010-01-01 - 2025-01-17)
2. Dr M. Manivel Raja, Scientist "E", Defence Metallurgical Research Laboratory (DMRL), Hyderabad - 2010-01-01)
3. Dr S. Amirthapandian, Scientiic Officer "E", Indira Gandhi Centre for Atomic ResearchE" - 2009-06-01)
4. Dr T. Thangadurai, Professor, Centre for Nanoscience and Technology, Pondicherry University, Puducherry - 2010-07-01)
5. Dr V. Ganesh, Principal Scientist, Central Electrochemical Research Institute (CECRI), Karaikudi` - 2011-08-01)
6. Dr A. Stephen, Professor, Department of Nuclear Physics, University of Madaras, Guindy Campus, Chennai - 2008-10-01)
7. Prof. Dr Kamanio Chattopadhyay, Department of Materials Engineering, Indian Institute of Science, Bengaluru - 2008-04-01)

Programs organized

1. International Seminar (2012-01-09 - 2009-01-09)
2. Workshop (2009-03-19 - 2009-03-21)
3. National Conference (2010-02-05 - 2010-02-04)
4. National Conference (Second) (2011-03-25 - 2011-03-26)
5. Refresher Course (2011-12-21 - 2011-01-01)
6. National Conference (Third) (2013-03-26 - 2013-03-25)
7. National Symposium (2013-12-06 - 2013-12-05)
8. National Seminar (2014-02-28 - 2014-02-28)
9. DBT Sponsored Short Term Course (2014-10-01 - 2014-09-08)
10. Practical Training Programme (2014-12-05 - 2014-12-04)
11. Workshop (2015-09-11 - 2015-09-10)
12. National Conference (2016-10-21 - 2016-10-19)
13. Workshop (2016-10-20 - 2016-10-20)
14. Workshop (2018-02-03 - 2018-02-03)
15. Workshop (2018-04-12 - 2018-04-12)
16. Workshop (2018-08-27 - 2018-08-27)
17. Workshop (2018-10-27 - 2018-10-26)
18. Summer Training Program (2020-07-30 - 2020-07-15)
19. AICTE – ATAL Academy Faculty Development Program (2020-10-09 - 2020-10-05)
20. Worksho (2020-10-15 - 2020-10-15)
21. Refresher Course (2021-02-15 - 2021-02-02)
22. Summer Training Program (2021-08-07 - 2021-07-20)



Publications

International Journals - 121

121. Electrochemical synergy for energy storage: Uncovering the potential of h-BN and V₂C

MXene integration

Journal of Alloys and Compounds 1011, 178423 (2025) (January 2025)

Mounasamy Veena , Murugan Keerthana , Nagamony Ponpandian

120. Oxide Derivatives of Metal-Organic Frameworks for Water Splitting: A Concise Review

Sustainable Energy & Fuels (In Press) (January 2025)

Murugesan Abitha, Viswanathan Chinnuswamy, Nagamony Ponpandian

119. Nanocomposites of Carbon as Electrocatalyst

NanoCarbon: A Wonder Material for Energy Applications, Volume 1: Basics to Advanced Applications for Energy Production (January 2024)

M. Veena and N. Ponpandian

118. High-energy density asymmetric supercapacitors with bimetallic Mo-Nisulfides anchored on boron

carbon nitride matrix

Journal of Energy Storage 104,114526 (2024) (January 2024)

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

117. Effect on delamination of Nb₄C₃T_x MXene supported tungsten oxide for high-performance

supercapacitor

Journal of Energy Storage 98, 112830 (2024) (January 2024)

Nikhil Prabhakar, Amir Humayun, Ponpandian Nagamony, Umamaheswari Rajaji, Razan A Alshgari, Ting-Yu Liu, Viswanathan Chinnuswamy

116. Exploring the Enhanced Electrochemical Activity of V₂O₅/h-BN: Investigating Its Structural Dynamics for

Asymmetric Supercapacitors

ACS Applied Electronic Materials 6, 5681 – 5693 (January 2024)

Veena Mounasamy, Murugan Keerthana, Nagamony Ponpandian

115. Synergizing experimental and theoretical insights: unveiling the solar potential of La₂NiMnO₆ double

perovskite for enhanced efficiency and sustainability in photovoltaics

Chemical Engineering Journal 486, 150216 (2024) (January 2024)

T Sangavi, S Vasanth, C Viswanathan, N Ponpandian

114. Cobalt-Iron Co-substituted NiV Layered Double Hydroxide as a High-Performance Electrocatalyst for

Oxygen Evolution Reaction in a Neutral Saline Medium

ACS Applied Energy Materials 7, 154 – 164 (2024) (January 2024)

G Srividhya, T Sangavi, C Viswanathan, N Ponpandian

113. Non-enzymatic electrochemical detection of methylglyoxal in saliva using a polyaniline/nickel oxide

nanohybrid biosensor: A noninvasive approach for diabetes diagnosis

Biosensors and Bioelectronics: X 17, 100444 (2024) (January 2024)

S Vasanth, H Amir, N Ponpandian, C Viswanathan

112. Electrospun statin-loaded nanofibers for treating diabetic wounds

Polymer Engineering & Science, 64, 1715 – 1730 (2024) (January 2024)

D Pamu, K K Garikapati, G Kuppusamy, P T Krishnamurthy, S Ganesan, M R Naik, V V S R Karri, N Ponpandian, A Alexiou, S Antoniou, A A Khan, A M Alanazi, M Papadakis

111. Cu encrusted RF sputtered ZnO thin film based electrochemical immunosensor for highly sensitive

detection of IL-6 in human blood serum

Microchemical Journal 199, 110061 (2024) (January 2024)

M Lakshmi Narayanan, K Prabhu, N Ponpandian, C Viswanathan



110. Fabrication of graphitic carbon nitride synthesized via pyrolysis for environmental remediation: a detailed experimental analysis with different parametric optimizations

New Journal of Chemistry 48, 7921-7939 (2024) (January 2024)
S Ilakiya, M Keerthana, N Ponpandian, P Thangadurai

109. Nitrogen-enhanced carbon quantum dots mediated immunosensor for electrochemical detection of HER2 breast cancer biomarker

Bioelectrochemistry 155, 108589 (2024) (January 2024)
H Amir, S Vasanth, S Sornambikai, N Ponpandian, C Viswanathan

108. Investigation of optical and electronic characteristics of B²⁺ site arranged Cs₂NaB₂Cl₅ (B²⁺= Ni, Mn, Fe) double perovskite: A theoretical and experimental study

International Journal of Hydrogen Energy. 51, 1462-1470 (2024) (January 2024)
T Sangavi, S Vasanth, C Viswanathan, N Ponpandian

107. The intriguing bifunctional effect of strong metal support interaction (SMSI) and hydrogen spillover effect (HSPE) for effective hydrogen evolution reaction

Applied Catalysis B: Environmental 339, 123089 (2023). (December 2023)
R. Rajalakshmi, G. Srividhya, C.Viswanathan, N. Ponpandian

106. Interfacing NiV layered double hydroxide with sulphur-doped gC₃N₄ as a novel electrocatalyst for enhanced hydrogen evolution reaction through Volmer–Heyrovský mechanism

Energy Advances 2, 1464-1475 (2023) (July 2023)
G. Srividhya, C. Viswanathan, N. Ponpandian

105. Synthesis effect on surface functionalized Ti₃C₂T_x MXene supported nickel oxide nanocomposites with enhanced specific capacity for supercapacitor application

Journal of Energy Storage 72. 108414 (2023) (January 2023)
Nikhil Prabhakar; S. Vasanth, N. Ponpandian, C. Viswanathan

104. An eco-friendly approach of designing arecanut husk ash into high performance Li ion battery anodes

Materials Letters 349, 134878 (2023) (January 2023)
D. Panoth, K. Brijesh, K. V. Baiju, H. S. Nagaraja, N. Ponpandian, A. Paravannoor

103. Corrosion inhibition capabilities of aluminium thin films on AZ31 magnesium alloy

Materials Science and Technology, 39, 2792-2810 (2023) (January 2023)
M. Sundeeep Kumar; R. Pachaiappan, S. Amirthapandian, N. Ponpandian, P. Thangadurai

102. Hydrogen spillover effect–harnessing hydrogen evolution reaction from diverse carbon-based supports with a tungsten oxide catalyst

Journal of Materials Chemistry A 11, 15889-15905 (2023) (January 2023)
R. Rajalakshmi, G. Srividhya, C. Viswanathan, N. Ponpandian

101. Modulating the electronic structure of MoS₂/NiS₂ by functionalizing it over the N-doped reduced GO to improve the catalytic hydrogen evolution

International Journal of Hydrogen Energy, In Press (2023) (January 2023)
R. Murugan, A. Rebekah, D. Navadeepthy, C. Viswanathan, N. Ponpandian

100. CRISPR based biosensing: An ultrasensitive theranostic tool for the detection of early Breast Cancer biomarkers–A mini review

Biosensors and Bioelectronics: X 9, 100367 (2023) (January 2023)
S. Sornambikai, K. P. Divya, S. Vasanth, C. Viswanathan, N. Ponpandian

99. Vertically pillared γ -Fe₂O₃ nanorods on carbon yarn as a textile-based stable immunosensor electrode for selective electrochemical sensing of interleukin-6 cancer biomarker

Sensors and Actuators A: Physical 357, 114419 (2023) (January 2023)
K. Prabhu, M. Lakshminarayanan, G. Mohankumar, N. Ponpandian, C. Viswanathan



98. Well-defined 2D transition vanadium pentoxide (V₂O₅) flat nanorods with large-scale synthesis feasibility as an electrocatalyst for the oxygen evolution reaction (OER)

Energy Advances, 2, 784-788 (2023) (January 2023)

M. Veena, G. Srividhya, N. Ponpandian

97. Morphological design of MnFe₂O₄ facets (cube, flakes and capsules) for their role in electrical, magnetic and photocatalytic activity

Materials Research Bulletin 164, 112242 (2023) (January 2023)

R. Rajalakshmi, N. Ponpandian

96. MXene supported biomimetic bilayer lipid membrane biosensor for zeptomole detection of BRCA1 gene

Microchimica Acta 190, 116 (2023) (January 2023)

K. P. Divya, S. Keerthana, C. Viswanathan, N. Ponpandian

95. Electrodeposition of SnO₂ nanostructures onto copper substrates and their electrochemical properties

Materials Science and Technology 39, 1414-1424 (2023) (January 2023)

D. Vasanth Raj, N. Ponpandian, C. Viswanathan

94. Effect of gamma-ray irradiated reduced graphene oxide (rGO) on environmental health: An in-vitro and in-vivo studies

Environmental Pollution 318, 120933 (2023) (January 2023)

S. Sivaselvam, A. Mohankumar, R. Narmadha, R. Selvakumar, P. Sundararaj, C. Viswanathan, N. Ponpandian

93. Enhanced bifunctional aspects of oxygen vacancy rich cation substituted MnCo₂O₄ intercalated with g-C₃N₄ as an oxygen evolution and supercapacitor electrode

International Journal of Hydrogen Energy, 48, 6384-6398 (2023) (January 2023)

Rebekah, A; Amir, H; Viswanathan, C; Ponpandian, N

92. SnO₂ nanoflakes deposited carbon yarn-based electrochemical immunosensor towards cortisol measurement

Journal of Nanostructure in Chemistry 13, 115-127 (2023) (January 2023)

M. Sekar, R. Sriramprabha, M. Vignesh, M. Pandiaraj, N. Ponpandian, C. Viswanathan

91. Electrochemical impedimetric immunosensor based on stabilized lipid bilayer-tethered WS₂@ MWCNT for the sensitive detection of carcinoembryonic antigen

Microchimica Acta 189, 450 (2022) (January 2022)

S. Keerthana, K. P. Divya, A. Rajapriya, C. Viswanathan, N. Ponpandian

90. Bimetallic Coreshell-Hemoglobin Complex Immobilized MXene Based Voltammetric Biosensor for the Electrochemical Detection of Acrylamide

Journal of The Electrochemical Society 169, 127510 (2022) (January 2022)

K. P. Divya, S. Keerthana, C. Viswanathan, N. Ponpandian

89. TiO₂ anchored carbon fibers as non-invasive electrochemical sensor platform for the cortisol detection

Materials Letters 308, 131238 (2022) (January 2022)

M. Sekar, R. Sriramprabha, M. Pandiaraj, N. Ponpandian; C. Viswanathan

88. 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

Journal of Photochemistry and Photobiology A: Chemistry 426, 113765 (2022) (January 2022)

M. Preethi, C. Viswanathan, N. Ponpandian

87. Waste cigarette butt derived Carbon/Magnesium oxide nanocomposite as potential adsorbent for the removal of ciprofloxacin from waste water

Materials Letters 312, 131668 (2022) (January 2022)

S. Sivaselvam, C. Viswanathan, N. Ponpandian



86. Engineering the semiconducting CdS nanostructures by N-doped rGO for enhancing the adsorption sites:

Promising electrocatalyst for hydrogen evolution reaction

International Journal of Hydrogen Energy 47, 16106-16120 (2022) (January 2022)

R. Murugan, A. Rebekah, J. A. Allen, M. Preethi, C. Viswanathan, N. Ponpandian

85. Highly effective and stable MWCNT/WO₃ nanocatalyst for ammonia gas sensing,

photodegradation of ciprofloxacin and peroxidase mimic activity

Chemosphere 297, 134023 (2022) (January 2022)

G. Jeevitha, S. Sivaselvam, S. Keerthana, D. Mangalaraj, N. Ponpandian

84. Polyethylene glycol assisted synthesis of pristine vanadium tetrasulfide nanostructures as high

performance electrode material for symmetric supercapacitors

Journal of Energy Storage 51, 104401 (2022) (January 2022)

R. Kumuthini, R. Ramachandran, J. A. Allen, N. Ponpandian, H. A. Therese

83. One-step preparation of N-doped grapheme quantum dots with high quantum yield for bioimaging and

highly sensitive electrochemical detection of isoniazid

Biomaterials Advances 135, 212731 (2022) (January 2022)

S. Sivaselvam, C. Viswanathan, N. Ponpandian

82. Potato starch derived N-doped carbon quantum dots as a fluorescent sensing tool for ascorbic acid

Journal of Photochemistry and Photobiology A: Chemistry 431, 114009 (2022) (January 2022)

M. Preethi, R. Murugan, C. Viswanathan, N. Ponpandian

81. Influence on effective and ineffective delamination of MXene (Ti₃C₂T_x) by tightly anchoring tin oxide

nanocomposite for boosting the specific capacitance of supercapacitor

Journal of Alloys and Compounds 921, 166092 (2022) (January 2022)

Nikhil Prabhakar, A. Rajapriya, N. Ponpandian, C. Viswanathan

80. Systematic review on electrochemical biosensing of breast cancer miRNAs to develop alternative DCIS

diagnostic tool

, ECS Sensors Plus 1, 21602 (2022) (January 2022)

S. Sornambikai, H. Amir, G. Bhuvaneshwari, N. Ponpandian, C. Viswanathan

79. Three dimensional integrated architecture of SrFe LDH on hierarchical NiS framework as a flexible

electrode for efficient energy storage and conversion applications

Journal of Energy Storage 53, 105091 (2022) (January 2022)

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

78. Template-free synthesis of 2D-pristine VS₄ nanosheets for supercapacitor applications

Physica Status Solidi (a) 219, 2200203 (2022) (January 2022)

R. Kumuthini, N. Ponpandian; H. A. Annal Therese

77. Hybrid nanostructures of WS₂ nanoflowers on N, B co-doped rGO for sensitive amperometric detection of

Nilutamide

Materials Today Chemistry, 26, 101052 (2022) (January 2022)

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

76. Fluorescence quenching mechanism of P-doped carbon quantum dots as fluorescent sensor for Cu²⁺ ions

Colloids and Surfaces A: Physicochemical and Engineering Aspects 653, 129942 (2022) (January 2022)

M. Preethi, C. Viswanathan, N. Ponpandian

75. Template-free synthesis of 2D-pristine VS₄ nanosheets for supercapacitor applications

Physica Status Solidi (a) 219, 2200203 (2022) (January 2022)

R. Kumuthini, N. Ponpandian; H. A. Annal Therese

74. Hybrid nanostructures of WS₂ nanoflowers on N, B co-doped rGO for sensitive amperometric detection of

Nilutamide

Materials Today Chemistry, 26, 101052 (2022) (January 2022)

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



73. Fluorescence quenching mechanism of P-doped carbon quantum dots as fluorescent sensor for Cu²⁺ ions

Colloids and Surfaces A: Physicochemical and Engineering Aspects 653, 129942 (2022) (January 2022)
M. Preethi, C. Viswanathan, N. Ponpandian

72. Sm³⁺ rare-earth doping in non-noble metal oxide-WO₃ grown on carbon cloth fibre as a bifunctional electrocatalyst for high-performance water electrolysis

Sustainable Energy & Fuels 5, 5851 - 5865 (2021) (January 2021)
R Rajalakshmi, C. Viswanathan, N. Ponpandian

71. Self-assembled Co₃O₄ nanospheres on N-doped reduced graphene oxide (Co₃O₄/N-RGO) bifunctional electrocatalysts for cathodic reduction of CO₂ and anodic oxidation of organic pollutants

ACS Applied Energy Materials 4, 11408 – 11418 (2021) (January 2021)
G. Bharath, K. Rambabu, C. Aubry, Abu Mohammad Haija, Ashok Kumar, N. Ponpandian; Banat, Fawz

70. ZnO-based electrochemical sensors for highly sensitive and selective detection of gallic acid at impact of substrate temperature

Applied Physics A 127, 802 (2021) (January 2021)
H Amir, D Murugesan, N Ponpandian, C Viswanathan

69. Development of RF magnetron-sputtered molybdenum oxide-modified carbon cloth thin film as a ferulic acid sensor

Applied Physics A 127, 805 (2021) (January 2021)
D Murugesan, H Amir, N Ponpandian, C Viswanathan

68. Enriched oxygen vacancy promoted heteroatoms (B, P, N, and S) doped CeO₂: Challenging electrocatalysts for oxygen evolution reaction (OER) in alkaline medium

International Journal of Hydrogen Energy 46, 37281 – 37293 (2021) (January 2021)
A. Rajapriya, S. Keerthana, A. Rebekah, C. Viswanathan and N. Ponpandian

67. Dual-functional paired photoelectrocatalytic system for the photocathodic reduction of CO₂ to fuels and the anodic oxidation of furfural to value-added chemicals,

Applied Catalysis B: Environmental 298, 120520 (2021) (January 2021)
G Bharath, K Rambabu, Abdul Hai, N Ponpandian, Jens Ejbye Schmidt, Dionysios D Dionysiou, Mohammad Abu Haija, Fawzi Banat

66. Evolution of intrinsic 1-3D WO₃ nanostructures: tailoring their phase structure and morphology for robust hydrogen evolution reaction

Chemical Engineering Journal 428, 132013 (2021) (January 2021)
R. Rajalakshmi, A. Rebekah, C.Viswanathan, N. Ponpandian

65. Enzyme like-colorimetric sensing of H₂O₂ based on intrinsic peroxidase mimic activity of WS₂ nanosheets anchored reduced graphene oxide

Journal of Alloys and Compounds, 889, 161669 (2021) (January 2021)
A.Rajapriya, C. Viswanathan, N. Ponpandian

64. Chitosan grafted Fe-doped WO₃ decorated with gold nanoparticles for stimuli-responsive drug delivery systems

Materials Letters 304, 130664 (2021) (January 2021)
R. Rajalakshmi, S. Sivaselvam and N.Ponpandian

63. An environment-friendly route to explore the carbon quantum dots derived from curry berries (Murrayakoenigii L) as a fluorescent biosensor for detecting vitamin B12

Materials Letters 303, 130521 (2021) (January 2021)
M Preethi, C Viswanathan, N Ponpandian

62. Langmuir-Blodgett deposited Na₃V₂(PO₄)₃-MnO₂ nanocomposite thin film electrodes for hybrid energy storage application

Materials Science and Engineering B 270, 115229 (2021) (January 2021)
M. Divagar, N. Ponpandian and C. Viswanathan



61. An electrochemical dopamine sensor based on RF magnetron sputtered TiO₂/SS thin film electrode

Materials Letters 300, 130175 (2021) (January 2021)
H. Amir, N. Ponpandian, C. Viswanathan

60. NiCo₂O₄ nanoparticles inlaid on sulphur, nitrogen doped and Co-doped rGO as efficient electrocatalysts for oxygen evolution and methanol oxidation reactions

Nanoscale Advances 3, 3216 - 3231 (2021) (January 2021)
A. Rebekah, C. Viswanathan and N. Ponpandian

59. <I>In vitro</I> evaluations of biomolecular interactions, antioxidant and anticancer activities of Nickel (II) and Copper (II) complexes with 1:2 coordination of anthracenyl hydrazone ligands

Inorganica Chimica Acta 524, 120419 (2021) (January 2021)
K. S. Neethu, S. Sivaselvam, M. Theetharappan, J. Ranjitha, N. S. P. Bhuvanesh, N. Ponpandian, M. A. Neelakantan, M. V. Kaveri

58. Investigation of morphologically tuned Sb₂S₃ nanostructures as an effective electrocatalyst for Hydrogen Evolution Reaction

Colloids and Surfaces A: Physicochemical and Engineering Aspects 622, 126612 (2021) (January 2021)
R. Murugan, A. Rebekah, C. Viswanathan and N. Ponpandian

57. Boosting the kinetics of oxygen and hydrogen evolution in alkaline water splitting using nickel ferrite /N-graphene nanocomposite as a bifunctional electrocatalyst

International Journal of Hydrogen Energy 46, 21512 - 21524 (2021) (January 2021)
D. Navadeepthy, A. Rebekah, C. Viswanathan and N. Ponpandian

56. A Green path to extract the carbon quantum dots by cocos nucifera (coconut water): another fluorescent probe towards Fe³⁺ ions

Paricuology 58, 251 - 258 (2021). (January 2021)
M. Preethi, C. Viswanathan and N. Ponpandian

55. Enhanced electrochemical activities of morphologically tuned MnFe₂O₄ nanoneedles and nanoparticles integrated on reduced graphene oxide for highly efficient supercapacitor electrodes

Nanoscale Advances 3, 2887 - 2901 (2021) (January 2021)
R Rajalakshmi , K. P. Remya, C. Viswanathan and N. Ponpandian

54. WS₂ hierarchical nanoflowers on rGO with enhanced electrochemical performance for sensitive and selective detection of mesalazine in real sample analysis

Colloids and Surfaces A: Physicochemical and Engineering Aspects 618, 126452 (2021) (January 2021)
S Keerthana, A Rajapriya, S Amirthapandian, C Viswanathan, N Ponpandian

53. Hybrid Pd₅₀-Ru₅₀/MXene (Ti₃C₂T_x) nanocatalyst for effective hydrogenation of Krishnamurthyanol toward climate change control

Chemical Engineering Journal 414, 128869 (2021) (January 2021)
G Bharath, K Rambabu, Abdul Hai, Israa Othman, N Ponpandian, Fawzi Banat, Pau Loke Show

52. Magnetic nanoparticle-decorated graphene oxide-chitosan composite as an efficient nanocarrier for protein delivery

Colloids and Surfaces A: Physicochemical and Engineering Aspects 610, 125913 (2021) (January 2021)
A. Rebekah, S. Sivaselvam, C. Viswanathan, D. Prabhu, Ravi Gautam and N. Ponpandian

51. The rare earth dopant (La, Gd, Sm & Y) modulated grain boundary energy barrier suppression in BaZrO₃-BaCeO₃ solid solution

Journal of Alloys and Compounds 864, 158098 (2021) (January 2021)
U. Aarthi, M. Kavithanjali, K. Sandhya, N. Ponpandian, K Suresh Babu

50. Direct Growth of MoS₂ Hierarchical Nanoflowers on Electrospun Carbon Nanofibers as an electrode material for High-Performance Supercapacitors

Journal of Alloys and Compounds 859, 157771 (2021) (January 2021)
A Rajapriya, S Keerthana, C Viswanathan, N Ponpandian



49. Highly stable and Selective LaNiO₃ Nanostructures Modified Glassy Carbon Electrode For Simultaneous Electrochemical Detection of Neurotransmitting Compounds

Colloids and Surfaces A: Physicochemical and Engineering Aspects 618, 126387 (2021) (January 2021)
S. Priyatharshni, D. Navadeepthy, G. Srividhya, C. Viswanathan and N. Ponpandian

48. Rapid one-pot synthesis of PAM-GO-Ag nanocomposite hydrogel by gamma-ray irradiation for remediation of environment pollutants and pathogen inactivation

Chemosphere 275, 130061 (2021) (January 2021)
S. Sivaselvam, R. Selvakumar, C. Viswanathan and N. Ponpandian

47. Removal of 1-naphthylamine using magnetic graphene and magnetic graphene oxide functionalized with Chitosan

Environmental Nanotechnology, Monitoring & Management 15, 100540 (2021) (January 2021)
A. Rebekah, D. Navadeepthy, G. Bharath, C. Viswanathan, N. Ponpandian

46. Nano?hydroxyapatite (HAp) and hydroxyapatite/platinum (HAp/Pt) core shell nanorods: Development, structural study, and their catalytic activity

The Canadian Journal of Chemical Engineering 99, 269-280 (2021) (January 2021)
M. Manoj, K. Venkatesan, Neha Hebalkar, D. Mangalaraj, N. Ponpandian, P. Meena, K. Swaminathan, A. Yuan

45. Fabrication, toxicity and biocompatibility of Sesamum indicum infused graphene oxide nanofiber - a novel green composite method

, Applied Nanoscience 11, 670 – 686 (2021) (January 2021)
Sivarajani, K. Arya, N. Ponpandian and P. P. Vijaya

44. Substrate temperature induced enhanced selectivity and sensitivity for nanomolar gallic acid detection on RF magnetron sputtered ZnO/GS thin film electrode

Sensors and Actuators A: Physical 315, 112368 (2020) (January 2020)
P Sivasakthi, H Amir, S Sornambikai, N Ponpandian, C Viswanathan

43. Enhanced removal of emerging pharmaceutical contaminant ciprofloxacin and pathogen inactivation using morphologically tuned MgO nanostructures

Journal of Environmental Chemical Engineering 8, 104256 (2020) (January 2020)
S Sivaselvam, P Premasudha, C Viswanathan, N Ponpandian

42. Morphologically tuned LaMnO₃ as an efficient nanocatalyst for the removal of organic dye from aqueous solution under sunlight

Journal of Environmental Chemical Engineering 8, 104146 (2020) (January 2020)
S Priyatharshni, S Rajesh Kumar, C Viswanathan, N Ponpandian

41. Magnetic graphene/chitosan nanocomposite: A promising nano-adsorbent for the removal of 2-naphthol from aqueous solution and their kinetic studies

International Journal of Biological Macromolecules 159, 530-538 (2020) (January 2020)
A Rebekah, G Bharath, Mu Naushad, C Viswanathan, N Ponpandian

40. Zn-substituted MnCo₂O₄ nanostructure anchored over rGO for boosting the electrocatalytic performance towards methanol oxidation and oxygen evolution reaction (OER)

International Journal of Hydrogen Energy 45, 14713–14727 (2020) (January 2020)
A Rebekah, Sengeni Anantharaj, C Viswanathan, N Ponpandian

39. Tailoring the morphology and size of perovskite BiFeO₃ nanostructures for enhanced magnetic and electrical properties

Materials & Design 192, 108694 (2020) (January 2020)
K P Remya, D Prabhu, R Justin Joseyphus, A Chandra Bose, C Viswanathan, N Ponpandian

38. Hydrothermal synthesis of surfactant assisted Zn doped SnO₂ nanoparticles with enhanced photocatalytic performance and energy storage performance

Journal of Physics and Chemistry of Solids 141, 109407 (2020) (January 2020)
S Suthakaran, S Dhanapandian, N Krishnakumar, N Ponpandian



37. Rare earth nanostructures based on PrOx/CNT composites as potential electrodes for an asymmetric pseudocapacitor cell

Journal of Rare Earths 38, 625-632 (2020) (January 2020)
Anjali Paravannoor, Chippy Alphons Augustine, N Ponpandian

36. Surfactant-assisted hydrothermal synthesis of Zr doped SnO₂ nanoparticles with photocatalytic and supercapacitor applications

Materials Science in Semiconductor Processing 111, 104982 (2020) (January 2020)
S Suthakaran, S Dhanapandian, N Krishnakumar, N Ponpandian, P Dhamodharan, M Anandan

35. Towards Wearable Sensor Platforms for the Electrochemical Detection of Cortisol

Journal of The Electrochemical Society 167, 067508 (2020) (January 2020)
M Sekar, R Sriramprabha, Praveen Kumar Sekhar, Shekhar Bhansali, N Ponpandian, Manickam Pandiaraj, C Viswanathan

34. Mesoporous nickel oxide nanostructures: influences of crystalline defects and morphological features on mediator-free electrochemical monosaccharide sensor application

Nanotechnology 31, 215501 (2020) (January 2020)
R Sriramprabha, M Sekar, J Wilson, N Ponpandian, C Viswanathan

33. Effect of cation substitution in MnCo₂O₄ spinel anchored over rGO for enhancing the electrocatalytic activity towards oxygen evolution reaction (OER)

International Journal of Hydrogen Energy 45, 6391 – 6403 (2020) (January 2020)
A Rebekah, E Ashok Kumar, C Viswanathan, N Ponpandian

32. Synthesis of one-dimensional magnetite hydroxyapatite nanorods on reduced graphene oxide sheets for selective separation and controlled delivery of hemoglobin

Applied Surface Science 501, 144215 (2020) (January 2020)
G Bharath, K Rambabu, Abdul Hai, Shoaib Anwer, Fawzi Banat, N Ponpandian

31. ZnO Nanorod Integrated Flexible Carbon Fibers for Sweat Cortisol Detection

ACS Applied Electronic Materials 2, 499-509 (2020) (January 2020)
Sekar Madhu, Allen Joseph Anthuuvan, Sriramprabha Ramasamy, Pandiaraj Manickam, Shekhar Bhansali, Ponpandian Nagamony, Viswanathan Chinnuswamy

30. A nanocomposite of NiFe₂O₄-PANI as a duo active electrocatalyst toward the sensitive colorimetric and electrochemical sensing of ascorbic acid

Nanoscale Advances 2, 3481 – 3493 (2020) (January 2020)
D Navadeepthy, M Thangapandian, C Viswanathan, N Ponpandian

29. Synergetic effects of thymoquinone-loaded porous PVPylated Fe₃O₄ nanostructures for efficient pH-dependent drug release and anticancer potential against triple-negative cancer cells

Nanoscale Advances 2, 3209-3221 (2020) (January 2020)
Rajesh S Kumar, Ramar Thangam, Raju Vivek, Sivasubramanian Srinivasan, Ponpandian Nagamony

28. Development of BiFeO₃/MnFe₂O₄ ferrite nanocomposite for enhanced magnetic and electrical properties

Nanoscale Advances 2, 2968 – 2976 (2020) (January 2020)
K P Remya, R Rajalakshmi, N. Ponpandian

27. Engineering the surface of graphene oxide with bovine serum albumin for improved biocompatibility in Caenorhabditis elegans

Nanoscale Advances 2, in Press (2020) (January 2020)
S. Sivaselvam, A. Mohankumar, G. Thirupathi, P. Sundararaj, C. Viswanathan and N. Ponpandian

26. Self-assembly of nanostructured hydroxyapatite spheres for photodegradation of methylene blue dye

Materials Today: Proceedings 18, 1729–1734 (2019) (January 2019)
I. Reeta Mary, R. Leethiyal, P. Sekar, D. Mangalaraj, C. Viswanathan and N. Ponpandian

25. Enhanced electrochemical performances of peanut shell derived activated carbon and its Fe₃O₄ nanocomposites for capacitive deionization of Cr (VI) ions

Science of The Total Environment 691, 713-726 (2019) (January 2019)
G Bharath, K Rambabu, Fawzi Banat, Abdul Hai, Abdul Fahim Arangadi, N Ponpandian



24. MnCo₂O₄-rGO Hybrid Magnetic Nanocomposite Modified Glassy Carbon Electrode for Sensitive Detection of L-Tryptophan

Journal of The Electrochemical Society 166, B845-B852 (2019) (January 2019)
A Rebekah, Thangavelu Kokulnathan, Tzyy-Jiann Wang, C Viswanathan, N Ponpandian

23. Hydrothermal synthesis of SnO₂ nanoparticles and its photocatalytic degradation of methyl violet and electrochemical performance

Materials Research Express 6(8) 08503 (2019) (January 2019)
, S Suthakaran, S Dhanapandian, N Krishnakumar, N Ponpandian

22. Mesoporous hydroxyapatite nanoplate arrays as pH-sensitive drug carrier for cancer therapy

Materials Research Express 6(8) 085409 (2019) (January 2019)
G Bharath, K Rambabu, Fawzi Banat, Shoaib Anwer, Sung Mun Lee, Nouf Bin Saleh, Swarna Latha, N Ponpandian

21. Surfactants assisted SnO₂ nanoparticles synthesized by a hydrothermal approach and potential applications in water purification and energy conversion

Journal of Materials Science : Materials in Electronics 30, 13174-13190 (2019) (January 2019)
S Suthakaran, S Dhanapandian, N Krishnakumar, N Ponpandian

20. Toxic influence of pristine and surfactant modified halloysite nanotubes on phytopathogenic bacteria

Applied Clay Science 174, 57-68 (2019) (January 2019)
R Abhinayaa, G Jeevitha, D Mangalaraj, N Ponpandian, P Meena

19. Carbon fiber based electrochemical sensor for sweat cortisol measurement

Scientific Reports 9, 403-1-14 (2019) (January 2019)
M Sekar, M Pandiaraj, S Bhansali, N Ponpandian, C Viswanathan

18. Porous reduced graphene oxide (rGO)/WO₃ nanocomposites for the enhanced detection of NH₃ at room temperature

Nanoscale Advances 1, 1799-1811 (2019) (January 2019)
G. Jeevitha, R. Abhinayaa , D. Mangalaraj , N. Ponpandian, P. Meena, V. Mounasamy and S. Madanagurusamy

17. Two dimensional ?-MoO₃ nanosheets decorated carbon cloth electrodes for high-performance supercapacitors

Colloids and Surfaces A: Physicochemical and Engineering Aspects 569, 137-144 (2019) (January 2019)
D. Murugesan, S. Prakash, N. Ponpandian, P. Manisankar, C. Viswanathan

16. ?-MoO₃ nanostructure on carbon cloth substrate for dopamine detection

Nanotechnology 30, 26 (2019) (January 2019)
M. Murugesan, K. Movlaee, N. Giovanni, N. Ponpandian, C. Viswanathan

15. Shape-controlled rapid synthesis of magnetic nanoparticles and their morphological dependent magnetic and thermal studies for cancer therapy applications

Materials Research Express 6, 066104 (2019) (January 2019)
G, Bharath, K, Rambabu, b. Fawzi, A. Shoaib, L, Sung Mun, B. Nouf, Swarna Latha, N, Ponpandian

14. Surface imprinted Ag decorated MnO₂ thin film electrodes for the synergic electrochemical detection of bacterial pathogens

Journal of The Electrochemical Society 166, G1-G9 (2019) (January 2019)
M Divagar, R Sriramprabha, S Sornambikai, N Ponpandian, C Viswanathan

13. N - Doped graphene with anchored ZnFe₂O₄ nanostructures as an anode for lithium ion batteries with enhanced reversible capacity and cyclic performance

New Journal of Chemistry 42, 16564-16570 (2018) (January 2018)
D. Navadeepthy, S. Bhuvaneswari, R. Prakash, C. Viswanathan and N. Ponpandian

12. Tin oxide/reduced graphene oxide nanocomposite-modified electrode for selective and sensitive detection of riboflavin

Journal of The Electrochemical Society 165, B498-B507 (2018) (January 2018)
R Sriramprabha, M Divagar, N Ponpandian, C Viswanathan



11. Cytotoxic consequences of Halloysite nanotube/iron oxide nanocomposite and iron oxide nanoparticles upon interaction with bacterial, non-cancerous and cancerous cells

Colloids and Surfaces B: Biointerfaces 169, 395-403 (2018) (January 2018)
R. Abhinayaa, G. Jeevitha, D. Mangalaraj, N. Ponpandian, Kalieswaran Vidhya, Jayaraman Angayarkanni

10. Mitochondrial dysfunction induced apoptosis in breast carcinoma cells through pH-dependent intracellular quercetin NDDS of PVPylated-TiO₂ NPs

Journal of Materials Chemistry B 6, 3555-3570 (2018) (January 2018)
T. Ponraj, R. Vivek, M. Paul Pandi, C. Rejeeth, V. Nipun Babu, K. Vimala, K Anand, S. Sivaselvam, A. Vasanthakumar, N. Ponpandian, S. Kannan

9. TiO₂-2 as diffusion barrier at Co/Alq₃ interface studied by x-ray standing wave technique

Journal of Physics D Applied Physics, 51(22), 225303 (2018) (January 2018)
Vaishali Phatak Londhe, A Gupta, N Ponpandian, D Kumar, V R Reddy

8. Sunlight-induced photochemical synthesis of Au nanodots on ?-Fe₂O₃@reduced graphene oxide nanocomposite and their enhanced heterogeneous catalytic properties

Scientific Reports, 8, 5718 (2018) (January 2018)
G. Bharath, Shoaib Anwer, R.V. Mangalaraja, Emad Alhseinat, Fawzi Banat and N. Ponpandian

7. Self-assembled SnO₂/reduced graphene oxide nanocomposites via Langmuir-Blodgett technique as anode materials for Li-ion batteries

Materials Letters, 218, 295-298 (2018) (January 2018)
R. Sriramprabha, N. Ponpandian, C. Viswanathan

6. Amine-functionalized diatom frustules: a platform for specific and sensitive detection of nitroaromatic explosive derivative

Environmental Science and Pollution Research 25, 20540-549 (2018) (January 2018)
S. Vijji, Neethi Thomas, J. A. Allen, N. Ponpandian, C. Viswanthan

5. Influence of Sn ion doping on the photocatalytic performance of V₂O₅ nanorods prepared by hydrothermal method

Materials Research Express 5, 025507-1-14 (2018) (January 2018)
S. Rajeshwari, J. Santhosh Kumar, R. T. Rajendrakumar, N. Ponpandian, P. Thangadurai

4. Detection of typhoid fever by diatom-based optical biosensor

Environmental Science and Pollution Research 25, 20385 – 20390 (2018) (January 2018)
S. Vijji, M. Anbazhagi, N. Ponpandian, C. Viswanthan

3. Surfactant-free solvothermal synthesis of hydroxyapatite nested bundles for the effective photodegradation of cationic dyes

Journal of Physics and Chemistry of Solids, 116, 180-186 (2018) (January 2018)
I. Reeta Mary, S. Sonia, D. Navadeepthy, D. Mangalaraj, C. Viswanathan, N. Ponpandian

2. Nanostructured SnO₂ integrated conductive fabrics as binder-free electrode for neurotransmitter detection

Sensors and Actuators A: Physical 269, 401-411 (2018) (January 2018)
M. Sekar, M. Pandiaraj, Michelle Pierre, Shekhar Bhansali, N. Ponpandian, C. Viswanathan

1. Dual oxidation state induced oxygen vacancies in Pr substituted BiFeO₃ compounds: An effective material activation strategy to enhance the magnetic and visible light-driven photocatalytic properties

Materials Research Bulletin 101, 107-115 (2018) (January 2018)
S. Bharathkumar, M. Sakar, N. Ponpandian, S. Balakumar

Books/Chapters - 23

23. 1D–3D Carbon Nanostructures for Flexible Supercapacitors

Handbook of Functionalized Carbon Nanostructures: From Synthesis Methods to Applications, Springer International Publishing. 1-31, 2023 (April 2024)
A Rajapriya, S Keerthana, N Ponpandian



22. 1D-3D Carbon Nanostructures for Flexible and Ultrathin Batteries

Handbook of Functionalized Carbon Nanostructures: From Synthesis Methods to Applications, Springer International Publishing.1-33 (April 2024)

T Sangavi, N Ponpandian

21. Decorated/Doped Graphene Nanomaterials in Augmentation of Food Safety and Quality Employing Recent Trends

Graphene-Based Nanomaterials, CRC Press., 83-97 (January 2024)

S Keerthana, A Rajapriya, N Ponpandian

20. Perovskites (ABO₃) and their prospects for gas sensor applicationok

Complex and Composite Metal Oxides for Gas, VOC and Humidity Sensors, Volume 2, Elsevier (December 2023)

S. Keerthana, M. Veena, N. Ponpandian

19. Synthesis of metal oxide composite nanofibers by electrospinning and its application in gas and VOC sensors

Complex and Composite Metal Oxides for Gas, VOC and Humidity Sensors, Volume 2, Elsevier (December 2023)

M. Veena, N. Ponpandian

18. Functionalized magnetic nanosystem-based electrochemical sensors for medical diagnostic tools and devices

Functionalized Magnetic Nanosystems for Diagnostic Tools and Devices, Elsevier, In Press (2023) (November 2023)

K. P. Divya, M. Veena, N. Ponpandian

17. Pseudocapacitance: Mechanism and Characteristics

Fundamentals to High Performance Energy Storage, 39 – 56 (November 2023)

G Srividhya, N Ponpandian

16. Polymer-Metal Oxides Nanocomposites for Supercapacitors

Recent Advancements in Polymeric Materials for Electrochemical Energy Storage, Springer Nature, Singapore. 131 – 149 (July 2023)

R Rajalakshmi, N Ponpandian

15. Fundamental understanding of charge storage mechanism

Smart Supercapacitors, Elsevier, 65 – 82, 2023 (January 2023)

A Rajapriya, S Keerthana, N Ponpandian

14. Nanowires for Organic Waste Removal

Nanowires, CRC Press, 149 – 164, 2023 (January 2023)

S Sivaselvam, T Sangavi, N Ponpandian

13. Nanowires for Electrocatalytic Activity

Nanowires, CRC Press, 149 – 164, 2023 (January 2023)

A Rebekah, A Rajapriya, N Ponpandian

12. Quercetin bio-flavonoids derived from phytochemical compounds for targeted drug delivery and its antioxidant properties

Nanophytochemistry, CRC Press, Taylor & Francis Group, 221 – 234 (October 2022)

S. Rajesh Kumar and N. Ponpandian

11. Thymoquinone: A multifunctional phytochemical for nanoencapsulated drug delivery for cancer and brain disorder treatments

Nanophytochemistry, CRC Press, Taylor & Francis Group, 245 – 254 (October 2022)

D. Navadeepthy and N. Ponpandian

10. Synthesis of magnetoelectric multiferroic materials and their composites

Handbook of Magnetic Hybrid Nanoalloys and their Nanocomposites, Springer Nature, Switzerland, 203 – 232 (October 2022)

D. Navadeepthy, G.Srividya, and N.Ponpandian

9. Nanophytochemistry: An Emerging Platform for Drug Delivery

CRC Press, Taylor & Francis Group, 2022. ISBN 9781032137285 (October 2022)

T. Parimelazhagan, Lucindo Quintans – Junior and N. Ponpandian



8. Diatom Frustules: A Transducer Platform for Optical Detection of Molecules

Diatom Microscopy, John Wiley & Sons, Inc., 283 – 305 (January 2022)
S Viji, N Ponpandian, C Viswanathan

7. Chalcogenides based nano composites for supercapacitors

Nanostructured Materials for Supercapacitors, Springer International Publishing, 375 – 396, 2022. (January 2022)
A Rajapriya, S Keerthana, N Ponpandian

6. Tailored Nanocomposites for hydrazine electrochemical sensors

Nanocomposite materials for sensors, Bentham Science Pub. Ltd., 212 – 224 (January 2022)
A. Rebekah, G. Srividya, and N. Ponpandian

5. Conducting polymer composites for sensing

Nanocomposite materials for sensors, Bentham Science Pub. Ltd. Vol. II, 62. 80 (January 2022)
D. Navadeepthy, G. Srividya and N. Ponpandian

4. Bimetallic-carbon based composites electrochemical sensors

Nanocomposite materials for sensors, Bentham Science Pub. Ltd. Vol. II, 30 – 44 (January 2022)
S. Keerthana, A. Rajapriya and N. Ponpandian

3. Internet of Nano Things - Amalgamation of Nanotechnology and IoT

Securing IoT in industry 4.0 Applications with Blockchain, Taylor & Francis Pub. Ltd, 195 – 219 (January 2021)
G. Srividya and N. Ponpandian

2. Multifunctional Nanomaterials and Nanocomposites, Vol. II

ISBN: 978-81-921247-1-1 (March 2013)
D. Mangalaraj, N. Ponpandian, C. Viswanathan and A. Balamurugan

1. Multifunctional Nanomaterials and Nanocomposites

ISBN: 978-81-921247-0-4 (March 2011)
D. Mangalaraj, N. Ponpandian, C. Viswanathan

Conferences - 2

2. Rapid one-pot synthesis of PAM-GO-Ag nanocomposite hydrogel by gamma-ray irradiation for remediation of emerging pharmaceutical pollutants and pathogen inactivation

Proceedings of the second international conference on emerging contaminants in water and environment (January 2023)
S Sevaselvam, R Selvakumar, C Vishwanathan, N Ponpandian

1. Magneto electric properties of Yb doped bismuth ferrite nanoparticles

Proceedings of the fourth international conference on frontiers in nanoscience and technology (January 2010)
KP Remya, C Viswanathan, N Ponpandian, S Amirthapandian

Publication Database - 8

8. Hollow Nanostructures of Hydroxyapatite and its Composites: Shape Controlled Synthesis and

Photodegradation Studies

Project Report, University Grants Commission, Ministry of Human Resource Development, Government of India, New Delhi, 2018 (January 2018)
N. Ponpandian

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

Project Report, Defence Research and Development Organization, Ministry of defence, Government of India, New Delhi 2016 (January 2016)
N. Ponpandian

6. First test measurements with the new soft X-ray scattering octupole end station

Annual Report, BESSY, 286-287, 2007. (January 2007)
N. Wilken, S. Polei, N. Ponpandian, A. Kleibert and K.-H. Meiwes Broer

5. X-ray magnetic linear dichroism in resonant absorption and reflection of soft X-rays

Annual Report, BESSY, 563-564, 2006 (January 2006)
N. Ponpandian, A. Kleibert, S. Gutzeit, S. Polei and Karl.-Heinz Meiwes Broer



4. Magnetic EXAFS Study of Fe on Ag(100): Experiment and Theory

Annual Report, BESSY, 400-402, 2006 (January 2006)

J. Kurde, N. Ponpandian, J. Luo, C. Sorg, K. Baberschke, P. Srivastava and H. Wende

3. Importance of spin fluctuations in 2D Co/Cu/Ni trilayers

Annual Report, BESSY, 170-172, 2005 (January 2005)

C. Sorg, A. Scherz, M. Bernien, N. Ponpandian, K. Baberschke, and H. Wende

2. Induced magnetism in O as a surfactant for Fe, Co, and Ni films

Annual Report, BESSY, 173-175, 2005 (January 2005)

C. Sorg, N. Ponpandian, R. Q. Wu, M. Bernien, K. Baberschke, and H. Wende
Annual Report, BESSY, 173-175, 2005
Annual Report, BESSY, 173-175, 2005

1. NEXAFS and XMCD of ultrathin Ni films grown with O surfactant

Annual Report, BESSY, 135-137, 2004 (January 2004)

C. Sorg, N. Ponpandian, A. Scherz, M. Bernien, R. N  nthe, T. Gleitsmann, K. Baberschke, and H. Wende

National Journals - 7

7. ZnO nanorods decorated with ZnS nanoparticles

Solid State Physics (India) 1665, 050146 (2015) (December 2015)

S. Joicy, P. Sivakumar, N. Ponpandian and P. Thangadurai

6. Electrodeposition of nanoneedles on anodized copper substrates and its electrochemical performance

Solid State Physics (India) 1536, 151-152 (2013) (December 2013)

D Vasanth Raj, N Ponpandian, D Mangalaraj, C Viswanathan

5. Universality of a.c. conduction in nanocrystalline nickel ferrite

Solid State Physics (India) 44, 365-366 (2001) (December 2001)

N. Ponpandian, P. Balaya, A. Narayanasamy and K. Chattopadhyay

4. Size dependent magnetic properties of materials

Solid State Physics (India) 43, 22-23 (2000) (December 2000)

A. Narayanasamy, C. N. Chinnasamy, N. Ponpandian and R. Justin Joseyphus

3. Magnetic properties of chemically derived nanostructured nickel ferrite

Solid State Physics (India) 42, 509-510 (1999) (December 1999)

N. Ponpandian, A. Narayanasamy C.N. Chinnasamy and R. Ramamoorthy

2. Indigenously developed UHV chamber -preparation and characterisation of nanostructured MnF2

Solid State Physics (India) 42, 209-210 (1999) (December 1999)

MnF2S. Ramasamy, B. Purniah, R. N. Viswanath, A. Chandra Bose, N. Ponpandian, K. Thomas Kutty and A. Narayanasamy

1. Ion beam mixing in Fe/Ag multilayer

Solid State Physics (India) 42, 527-528 (1999). (December 1999)

S. Amirthapandian, B. K. Panigrahi, A. Narayanasamy, S. Dhara, V. Ganesan, N. Ponpandian, P. Magudapathy and K. G. M. Nair

Patents

Granted - 3

1. Method for simultaneous detection, quantification and degradation of cigarette wastewater and its by-products using photoelectrochemical (PEC) oxidation. 09-2023 453005 Dr. C. Viswanathan, H. Amir, Dr. N. Ponpandian

2. Method for Simultaneous Detection and Degradation of Smokeless Tobacco Wastewater and Its By-Product 08-2023 442144 Dr. C. Viswanathan, H. Amir, Dr. N. Ponpandian

3. Bifunctional cost-effective electrocatalyst for catalyzing hydrogen and oxygen evolution reaction 02-2022 543506 Dr. N. Ponpandian, Dr. A. Rebekah, R. Murugan

Filed - 4

1. Biosensor Device for Detection of BRCA1 Gene Mutation 05-2022 202241029462 Dr. K. P. Divya, Ms. S. Keerthana, Dr. N. Ponpandian

2. Pioglitazone nanoparticles functionalized with RGD and P3 peptides and compositions thereof for adipocyte specific drug delivery 01-1970 202241017503 N. Ponpandian

3. Statin Nanofibers Coated With Silver Nanoparticles For Diabetic Wound Healing Associated With Inf. 01-1970 202341050930 KRISHNAMURTHY, Praveen Thaggikuppe, GARIKAPATI, Kusuma Kumari, AMMU, Veera Venkata Vajra Ravi Kiran, BABU, Basuvan, PONPANDIAN, Nagamony

4. Water-Splitting Reactor for Generating Hydrogen Fuel by Enhancing a Photoelectrochemical Water Splitting Process
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Projects

Completed - 13

1. Novel Photoelectrode Nanomaterials for Photoelectrochemical Applications: Reduction of Atmospheric CO₂ into Hydrocarbon Fuels and H₂ production via Water Splitting TANSCH 18,01,000 (September 2023 - August 2024)
2. Developing Ordered Assembly of Metal Oxide – Polyaniline Hybrid Materials for Multiple Biomarkers Detection in Diabetes Health Monitoring Systems TANSCH 17,72,000 (September 2021 - March 2024)
3. An Innovative approach in the development of ferrites based magnetic hyperthermia therapy for oncological applications, RUSA RUSA 2.0 - BCTRC 8,00,000 (April 2021 - December 2023)
4. Development of Electrochemical Wearable Biosensor in Human Sweat Metabolomics for the Detection of Biomarker DST – SERB 34,52,000 (April 2019 - March 2022)
5. 2D WS₂ Nanostructure Sandwiched with Hetero-Atom Doped (N, B) Graphene Layers for Sensing of Interdisciplinary Targets - UGC-DAE-CSR Others 7,50,000 (April 2019 - March 2022)
6. Fabrication and Development of Hybrid Nanocomposite Fibres for Wearable Sensors and Actuators DST – SERB 35,50,000 (April 2018 - March 2021)
7. Au decorated WO₃/Graphene nanohybrids as high efficient photoelectrochemical water splitter for hydrogen production DST – SERB 46,50,000 (August 2017 - May 2021)
8. Development of Solar cell Materials and Methods for Sustainable Energy Storage - RUSA Others 1,00,00,000 (April 2017 - May 2019)
9. Hollow Nanostructures of Hydroxyapatite and its Composites: Shape Controlled Synthesis and Photodegradation Studies UGC-MRP 12,76,000 (April 2012 - March 2015)
10. Development of Monodispersed Functionalized Superparamagnetic Nanoparticles for Potential Biological Applications DST – SERB 22,64,000 (April 2012 - March 2015)
11. Ion Beam Synthesis and Characterisation of Nanocomposite Exchange Spring Magnets - UGC-DAE-CSR Others 7,50,000 (April 2011 - March 2014)
12. Magnetocaloric Effect in Nanostructures and Thin Films of Gd₅(SixGe_{1-x})₄ for Magnetic Refrigeration - DRDO - ER & IPR Others 23,24,000 (April 2010 - March 2013)
13. Development of cost-effective electrode materials from Eichhornia Crassipes for electrochemical supercapacitors DAE-BRNS 18,86,000 (April 2010 - March 2013)

Ongoing - 3

1. Disposable Multiplexed Electrochemical Genosensor for BRCA1 Mutation Detection, ICMR, Government of India Others 89,21,000 (February 2024 - January 2027)
2. External Magnetic Field-Assisted Electrochemical Water Splitting Reactor Using a Flexible Electrode of Mo₂TiC₂Tx and WO₃ Nanorod Heterostructure DST – SERB 44,65,000 (June 2024 - May 2027)
3. Integration of Supercapacitors and Batteries towards High Performance Hybrid Energy Storage Devices Using MoS₂ and Metal-Organic Framework (MOF) derived Carbon Nanofiber as Electrodes Others 39,90,000 (January 2025 - December 2027)