Bharathiar University

State University I "A++" Grade by NAAC I 46th Rank in MoE-NIRF
Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

Dr P MANIVASAKAN

Assistant Professor
School of Distance Education

Bharathiar University
Coimbatore, 641046
Tamil Nadu

E-mail: pmanivasakan@buc.edu.in
Phone: 7639063666
Office Number:

Research Area

- Chemistry of Nanomolecular Materials

Courses Teaching

- General Chemistry
- Electrochemistry
- Nuclear Chemistry
- Solid-State and Materials Chemistry
- Chemistry of Smart and Nanoscale Materials

Research Experience: 16

Teaching Experience: 10

Research Credentials (as on February 2026 – Source: Google scholar)

H-index: 31 Citations: 2398 i10-index: 44

Publications

International Journals: 59 Books/Chapters: 3 Conferences: 2

Career

Other Institutes

1. Designation : Post Doctoral Fellow

Institution Name : Department of Chemistry, Kongju National University, South Korea
Period : June 2013 - November 2014

2. Designation : Associate Professor

Institution Name : Centre for Nanoscience and Technology, K. S. Rangasamy College of Technology
Period : January 2015 - November 2016

At Bharathiar University

1. Designation : Assistant Professor

Period : November 2016 - July 2022

2. Designation : Assistant Professor

Period : July 2022 - Till Date

Education

Ph. D.

Subject : Chemistry
Institution : The Centre for Nanoscience and Technology, KSRCT
Affiliated University : Anna University, Chennai
Year of Award : July 2012

M. Phil.

Subject : Chemistry
Institution : Madurai Kamaraj University
Affiliated University : Madurai Kamaraj University
Year of Award : July 2007

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M. Sc.
Subject : Chemistry
Institution : The Gandhigram Rural Institute
Affiliated University : The Gandhigram Rural Institute (Deemed University)
Year of Award : April 2006

B. Sc.
Subject : Chemistry
Institution : Erode Arts and Science College
Affiliated University : Bharathiar University
Year of Award : April 2003

Projects	Research Guidance

National Level
Ongoing - completed - 1

Publications

International Journals - 59

59. PMMA-Enhanced Electron Extraction in Nanocrystalline Silicon: P3HT Hybrid Solar Cells

Transactions on Electrical and Electronic Materials (March 2025)
Murugan Vinoth, Palanisamy Manivasakan, Palanisamy Siva, Venkatachalam Rajendran

58. In silico investigations of high-energy density properties and effect of ring fusion on dinitropyrazole derivatives

Structural Chemistry (October 2023)
Thangavel Subramani, Jothibaskar Natarajan, Sathya Lakshmanan, Srinivasan Ponnusamy, Logesh Ganesan & Manivasakan Palanisamy?

57. Employing zinc oxide–tantalum pentoxide blend coatings as eminent light harvester for improving performance of silicon solar cell

Bulletin of Materials Science (January 2023)
Santhosh Sivaraj, Rajasekar Rathanasamy, Gobinath Velu Kaliyannan & Manivasakan Palanisamy

56. Effective Utilization of Synthesized FeS2 for Improving Output Performance of Polycrystalline Silicon Solar Cell

Advances in Materials Science and Engineering (October 2022)
Moganapriya Chinnasamy , Rajasekar Rathanasamy , Santhosh Sivaraj , Gobinath Velu Kaliyannan , Manivasakan Palanisamy , Samir Kumar Pal and Md. Elias Uddin

55. Surface coatings of zinc oxide–tantalum pentoxide on multicrystalline Si solar cell as effective light harvester

Journal of Materials Science: Materials in Electronics (July 2022)
Santhosh Sivaraj, Rajasekar Rathanasamy, Gobinath Velu Kaliyannan & Manivasakan Palanisamy

54. Spinel zinc ferrite nanostructured thin-films for enhanced light-harvesting in polycrystalline solar cells

Materials Science-Poland (June 2021)
Arun Kumar Shanmugam , Rajasekar Rathanasamy , Gobinath Velu Kaliyannan , Nithyavathy Nagarajan and Manivasakan Palanisamy

53. An Extended Approach on Power Conversion Efficiency Enhancement Through Deposition of ZnS-Al2S3 Blends on Silicon Solar Cells

Journal of Electronic Materials (August 2020)
Gobinath Velu Kaliyannan, Senthil Velmurugan Palanisamy, Rajasekar Rathanasamy, Manivasakan Palanisamy, Nithyavathy Nagarajan, Santhosh Sivaraj & Manju Sri Anbupalani

52. Influence of ultrathin gahnite anti-reflection coating on the power conversion efficiency of polycrystalline silicon solar cell

Journal of Materials Science: Materials in Electronics (February 2020)
Gobinath Velu Kaliyannan, Senthil Velmurugan Palanisamy, Rajasekar Rathanasamy, Manivasakan Palanisamy, Sathish Kumar Palaniappan & Moganapriya Chinnasamy

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51. Stabilization of tetragonal zirconia in alumina-zirconia and alumina-yttria stabilized zirconia nanocomposites: A comparative structural analysis

Materials Characterization (October 2019)
A. Karthik, S.R. Srither, N.R. Dhineshbabu, N. Lenin, S. Arunmetha, P. Manivasakan, V. Rajendran.

50. Development of sol-gel derived gahnite anti-reflection coating for augmenting the power conversion efficiency of polycrystalline silicon solar cells

Materials Science-Poland (October 2019)
Gobinath Velu Kaliyannan, Senthil Velmurugan Palanisamy, Manivasakan Palanisamy, Mohankumar Subramanian, Prabhakaran Paramasivam, Rajasekar Rathanasamy

49. Fabrication of nano-graphene oxide assisted hydrotalcite/chitosan biocomposite: An efficient adsorbent for chromium removal from water

International Journal of Biological Macromolecules (July 2019)
Soodamani Periyasamy , Palanisamy Manivasakan, Chellappa Jeyaprabha, Sankaran Meenakshi, Natrayasamy Viswanathan

48. The Effects of Precursor Concentrations and Calcination Temperatures on Hydroxyapatite Nanocrystals Synthesized at Physiological Condition using Wet Precipitation Method

Nigerian Research Journal of Chemical Sciences (May 2019)
V. Ochigbo, V.O. Ajibola, E.B. Agbaji, A. Giwa, M.O. Ochigbo, J.T. Barminas, B.S. Zuru, P. Manivasakan and V. Rajendran.

47. Comparative study of hydroxyapatite nanocrystals using the chemical precipitation and hydothermal techniques

FUW Trends in Science & Technology Journal (March 2019)
V Ochigbo, MO Ochigbo-Ejembi, VO Ajibola, EB Agbaji, A Giwa, P Manivasakan, V Rajendran

46. Utilization of 2D gahnite nanosheets as highly conductive, transparent and light trapping front contact for silicon solar cells

Applied Nanoscience (January 2019)
Gobinath Velu Kaliyannan, Senthil Velmurugan Palanisamy, Manivasakan Palanisamy, Moganapriya Chinnasamy, Sankaranarayanan Somasundaram, Nithyavathy Nagarajan & Rajasekar Rathanasamy

45. Screening the UV-blocking and antimicrobial properties of herbal nanoparticles prepared from Aloe vera leaves for textile applications

IET Nanobiotechnology (March 2018)
Karthik Subramani, Balu Kolathupalayam Shanmugam, Suriyaprabha Rangaraj, Manivasakan Palanisamy, Prabu Periasamy, Rajendran Venkatachalam

44. Study on Production of Silicon Nanoparticles from Quartz Sand for Hybrid Solar Cell Applications

Journal of Electronic Materials (January 2018)
S. Arunmetha, M. Vinoth, S. R. Srither, A. Karthik, M. Sridharpanday, R. Suriyaprabha, P. Manivasakan & V. Rajendran

43. Larvicidal, super hydrophobic and antibacterial properties of herbal nanoparticles from Acalypha indica for biomedical applications

RSC Advances (August 2017)
S Karthik, R Suriyaprabha, M Vinoth, SR Srither, P Manivasakan, V Rajendran, Suresh Valiyaveettil

42. An ecofriendly route to enhance the antibacterial and textural properties of cotton fabrics using herbal nanoparticles from Azadirachta indica (neem)

Journal of Alloys and Compounds (June 2017)
Karthik Subramani, Vinoth Murugan, Balu Kolathupalayam Shanmugam, Suriyaprabha Rangaraj, Manivasakan Palanisamy, Rajendran Venkatachalam, Valiyaveettil Suresh

41. An efficient photoanode for dye sensitized solar cells using naturally derived S/TiO2 nanoparticles

Materials Research Express (March 2017)
S Arunmetha, V Rajendran, M Vinoth, A Karthik, SR Srither, M Srither Panday, N Nithyavathy, P Manivasakan, M Maaza

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40. In Focus section: NANO-15

Polymer International (February 2017)
Dr. V. Rajendran, Dr. P. Prabu, Dr. P. Manivasakan

39. Influence of ball milling on the particle size and antimicrobial properties of Tridax procumbens leaf nanoparticles

IET Nanobiotechnology (August 2016)
Subramani Karthik, Rangaraj Suriyaprabha, Kolathupalayam Shanmugam Balu, Palanisamy Manivasakan, Venkatachalam Rajendran

38. Synthesis of Nothapodytes Nimmoniana Leaf Nanoparticles for Antireflective and Self-Cleaning Applications

Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry (May 2016)
M Vinoth, R Suriyaprabha, S Arunmetha, A Karthik, S Karthik, P Paramasivam, P Prabu, P Manivasakan, K Saminathan, V Rajendran

37. High temperature corrosion resistance of silicate based nanostructured thermal barrier coatings using Al2O3–(Y2O3) ZrO2/SiO2 nanocomposite

Surface and Coatings Technology (March 2016)
Arumugam Karthik, Sundarmoorthy Arunmetha, Saturappan Ravisekaran Srither, Palanisamy Manivasakan, Venkatachalam Rajendran

36. Comparative Study on Isolation and Characterization of Amorphous Silica Nanoparticles From Different Grades of Rice Hulls

Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry (March 2016)
R Palanivelu, P Manivasakan, NR Dhineshbabu, V Rajendran

35. Enhanced functional properties of cotton fabrics using TiO2/SiO2 nanocomposites

Journal of Industrial Textiles (March 2016)
NR Dhineshbabu, S Arunmetha, P Manivasakan, G Karunakaran, V Rajendran

34. Size-dependent physicochemical properties of mesoporous nanosilica produced from natural quartz sand using three different methods

RSC Advances (May 2015)
Sundaramoorthy Arunmetha, Arumugam Karthik, Saturappan Ravisekaran Srither, Murugan Vinoth, Rangaraj Suriyaprabha, Palanisamy Manivasakan, Venkatachalam Rajendran

33. Reactive-template fabrication of porous NiO nanowires for electrocatalytic O2 evolution reaction

RSC Advances (March 2015)
Palanisamy Manivasakan, Parthiban Ramasamy, Jinkwon Kim

32. Nano alumina–zirconia blended epoxy polymeric composites for anticorrosive applications

Journal of Sol-Gel Science and Technology (January 2015)
A. Karthik, S. Arunmetha, S. R. Srither, P. Manivasakan & V. Rajendran

31. Effect of high temperature on the surface morphology and mechanical properties of nanostructured Al2O3–ZrO2/SiO2 thermal barrier coatings

Surface and Coatings Technology (January 2015)
Venkatachalam Rajendran, Arumugam Karthik, Saturappan Ravisekaran Srither, Sundarmoorthy Arunmetha, Palanisamy Manivasakan

30. Bioactivity of Zirconium-Substituted Nanobioactive Glass Particles

Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry (January 2015)
M. Prabhu, K. Kavitha, S. Sutha, P. Manivasakan, V. Rajendran, P. Kulandaivelu & Kamal Alameh

29. Phase controlled synthesis of SnSe and SnSe2 hierarchical nanostructures made of single crystalline ultrathin nanosheets

CrystEngComm (January 2015)
Parthiban Ramasamy, Palanisamy Manivasakan, Jinkwon Kim

Dr P MANIVASAKAN , Assistant Professor , School of Distance Education

28. Study on Optical and Dielectric Properties of BaTiO3/Nylon 6 Nanofibers

Advanced Science, Engineering and Medicine (November 2014)
D Sundhari, NR Dhineshbabu, P Manivasakan, S Praveen Kumar, V Rajendran

27. Hydroxyapatite, alumina/zirconia, and nanobioactive glass cement for tooth-restoring applications

Ceramics International (November 2014)
VV Anusha Thampi, M Prabhu, K Kavitha, P Manivasakan, P Prabu, V Rajendran, S Shankar, P Kulandaivelu

26. Development of functional hybrid cotton fabrics by coating with SiO2 and ZrO2/SiO2 composites

Micro & Nano Letters (October 2014)
Nattanmi Raman Dhineshbabu, Palanisamy Manivasakan, Periasamy Prabu, Nallathambi Gobi, Nallambalayam K. Palaniswamy, Venkatachalam Rajendran

25. In Vitro Bioactivity and Antimicrobial Tuning of Bioactive Glass Nanoparticles Added with Neem (Azadirachta indica) Leaf Powder

BioMed Research International (September 2014)
M. Prabhu, S. Ruby Priscilla, K. Kavitha, P. Manivasakan, V. Rajendran and P. Kulandaivelu

24. Hydrophobic and thermal behaviour of nylon 6 nanofibre web deposited on cotton fabric through electrospinning

Micro & Nano Letters (August 2014)
N.R. Dhineshbabu, Palanisamy Manivasakan, Venkatachalam Rajendran

23. Upconversion nanophosphors for solar cell applications

RSC advances (July 2014)
Parthiban Ramasamy, Palanisamy Manivasakan, Jinkwon Kim

22. Hydrophobicity, flame retardancy and antibacterial properties of cotton fabrics functionalised with MgO/methyl silicate nanocomposites

RSC advances (July 2014)
V. Rajendran N.R. Dhineshbabu, P. Manivasakan, A. Karthik

21. Use of urchin-like NixCo3?xO4 hierarchical nanostructures based on non-precious metals as bifunctional electrocatalysts for anion-exchange membrane alkaline alcohol fuel cells

Nanoscale (June 2014)
Palanisamy Manivasakan, Parthiban Ramasamy, Jinkwon Kim

20. Influence of Nano and Bulk SiO2 and Al2O3 Particles on PGPR and Soil Nutrient Contents

Current Nanoscience (May 2014)
Karunakaran, Gopalu; Suriyaprabha, Rangaraj; Manivasakan, Palanisamy; Rajendran, Venkatachalam; Kannan, Narayanasamy

19. Enhancement of UV Property on Cotton Fabric by TiO2 Nanorods

Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry (January 2014)
K. Sasipriya,P. Manivasakan,R. Yuvakkumar,N. R. Dhineshbabu,P. Prabu & V. Rajendran

18. Electrospun MgO/Nylon 6 hybrid nanofibers for protective clothing

Nano-Micro Letters (January 2014)
Nattanmai Raman Dhineshbabu, Gopalu Karunakaran, Rangaraj Suriyaprabha, Palanisamy Manivasakan, Venkatachalam Rajendran

17. Effect of processing methods on physicochemical properties of titania nanoparticles produced from natural rutile sand

Advanced Powder Technology (November 2013)
S. Arunmetha, P. Manivasakan, A. Karthik, N.R. Dhinesh Babu, S.R. Srither, V. Rajendran

16. Effect of nanosilica and silicon sources on plant growth promoting rhizobacteria, soil nutrients and maize seed germination

IET Nanobiotechnology (September 2013)
Gopalu Karunakaran, Rangaraj Suriyaprabha, Palanisamy Manivasakan, Rathinam Yuvakkumar, Venkatachalam Rajendran, Periyasamy Prabu, Narayanasamy Kannan

Dr P MANIVASAKAN , Assistant Professor , School of Distance Education

15. Preparation and Characterization of Silver-Doped Nanobioactive Glass Particles and Their In Vitro Behaviour for Biomedical Applications

Journal of Nanoscience and Nanotechnology (August 2013)
Muthusamy Prabhu, Kandiah Kavitha, Rangaraj Suriyaprabha, Palanisamy Manivasakan, Venkatachalam Rajendran, Palanisami Kulandaivelu

14. Optimization of Nano-Titania and Titania–Chitosan Nanocomposite to Enhance Biocompatibility

Current Nanoscience (June 2013)
K Kavitha, M Prabhu, V Rajendran, P Manivasakan, P Prabu, T Jayakumar

13. Enhanced Functional Properties of ZrO2/SiO2 Hybrid Nanosol Coated Cotton Fabrics

Journal of Nanoscience and Nanotechnology (June 2013)
NR Dhineshbabu, P Manivasakan, R Yuvakkumar, P Prabu, V Rajendran

12. Screening of in vitro cytotoxicity, antioxidant potential and bioactivity of nano- and micro-ZrO2 and -TiO2 particles

Ecotoxicology and Environmental Safety (April 2013)
Gopalu Karunakaran, Rangaraj Suriyaprabha, Palanisamy Manivasakan, Rathinam Yuvakkumar, Venkatachalam Rajendran, Narayanasamy Kannan

11. Synthesis, characterization and biological response of magnesium-substituted nanobioactive glass particles for biomedical applications

Ceramics International (March 2013)
Muthusamy Prabhu, Kandiah Kavitha, Palanisamy Manivasakan, Venkatachalam Rajendran, Palanisami Kulandaivelu

10. Production of Al2O3-Stabilized Tetragonal ZrO2 Nanoparticles for Thermal Barrier Coating

International Journal of Applied Ceramic Technology (February 2013)
Arumugam Karthik, Palanisamy Manivasakan, Sundaramoorthy Arunmetha, Rathinam Yuvakkumar, Venkatachalam Rajendran

9. Mass production of Al2O3 and ZrO2 nanoparticles by hot-air spray pyrolysis

Powder Technology (January 2013)
Palanisamy Manivasakan, Arumugam Karthik, Venkatachalam Rajendran

8. Impact of nano and bulk ZrO2, TiO2 particles on soil nutrient contents and PGPR

Journal of Nanoscience and Nanotechnology (January 2013)
Gopalu Karunakaran, Rangaraj Suriyaprabha, Palanisamy Manivasakan, Rathinam Yuvakkumar, Venkatachalam Rajendran, Narayanasamy Kannan

7. Phase transformation of ZrO2 nanoparticles produced from zircon

Phase Transitions (December 2012)
PR Rauta, P Manivasakan, V Rajendran, BB Sahu, BK Panda, P Mohapatra

6. Effect of mineral acids on the production of alumina nanopowder from raw bauxite

Powder Technology (April 2011)
Palanisamy Manivasakan, Venkatachalam Rajendran, Prema Ranjan Rauta, Bhakta Bandhu Sahu, Bharati Krushna Panda

5. On-line phase transition in La1?xSrxMnO3 (0.28???x???0.36) perovskites through ultrasonic studies

Phase Transitions (January 2011)
S. Sankarrajan,K. Sakthipandi,P. Manivasakan,K. Thyagarajan & V. Rajendran

4. Synthesis of Monoclinic and Cubic ZrO2 Nanoparticles from Zircon

Journal of the American Ceramic Society (JACerS) (January 2011)
Palanisamy Manivasakan, Venkatachalam Rajendran, Prema Ranjan Rauta, Bhakta Bandhu Sahu, Bharati Krushna Panda

3. Effect of TiO2 Nanoparticles on Properties of Silica Refractory

Journal of the American Ceramic Society (JACerS) (August 2010)
Palanisamy Manivasakan, Venkatachalam Rajendran, Prema Ranjan Rauta, Bhakta Bandhu Sahu, Pabitra Sahu, Bharati Krushna Panda, Suresh Valiyaveettill, Subbiah Jegadesan

2. Automated spray pyrolyser for continuous production of nano metal oxides for industrial applications

CiiT international Journal of Automation and Autonomous System, DOI: AA052009005, May 2009 (May 2009)
V Rajendran, P Manivasakan, B Saravanakumar, PR Rautaa, BB Shaua, BK Pandaa, P Renukadevib, P Kolandaivel

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1. Direct synthesis of nano alumina from natural bauxite

Advanced Materials Research (April 2009)
P Manivasakan, V Rajendran, PR Rauta, BB Sahu, BK Panda

Books/Chapters - 3

3. Inorganic Materials and Their Processing Techniques

Materials for Solar Energy Conversion: Materials, Methods and Applications. Available at Wiley Online Libraryhttps://doi.org/10.1002/9781119752202.ch8 (October 2021)
Manivasakan Palanisamy, Gobinath Velu Kaliyannan, Harikrishnakumar Mohan Kumar

2. Application of Nanostructured Materials for Energy and Environmental Technology

Application of NanostructuredMaterials for Energy andEnvironmental Technology (December 2015)
V. Rajendran P. Manivasakan K.E. Geckeler

1. Design and Construction of Complex Nanostructed Al2O3 Coating for Protective Applications

Nanostructured Materials and Nanotechnology V: Ceramic Engineering and Science Proceedings Available athttps://ceramics.onlinelibrary.wiley.comhttps://doi.org/10.1002/9781118095362.ch9 (September 2011)
P. Manivasakan, V. Rajendran, P. R. Rauta, B. B. Sahu, B. K. Panda

Conferences - 2

2. Silver doped nanobioactive glass particles for bone implant applications

AIP Conference ProceedingsAvailable at Online https://doi.org/10.1063/1.4791184 (February 2013)
M Prabhu, K Kavitha, G Karunakaran, P Manivasakan, V Rajendran

1. Optical and structural study of Ag/ZrO2/SiO2 planar waveguide structure: Glass/film/air

2012 IEEE Students' Conference on Electrical, Electronics and Computer Science Available at Online https://ieeexplore.ieee.org/document/6184992 (April 2012)
Senthil Kumar Kandasamy; Manivasakan Palanisamy

Projects

Completed - 1

1. "NATURAL MINERAL SAND/BIOMASS RICE HUSKS AS A SUSTAINABLE SOURCE OF NANO SILICON FOR COST EFFECTIVE SOLAR CELLS DST – SERB 2543520 (December 2015 - December 2018)