

Dr. N. PRAKASHKUMAR, Ph.D.

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Career objective:

To work in a creative and challenging environment. Whereby, I can take part in the growth of your research group by applying my practical and theoretical knowledge, subject expertise and Practical thinking to the best and for upgrading my skills and knowledge.

Research Profile:

Citations	h-Index	i10- Index	Cumulative Impact Factor	No. of Publications
204	6	6	59.4	14

Google Scholar ID:

<https://scholar.google.com/citations?user=aP9iWmkAAAAJ&hl=en>

Academic profile:

- ❑ **September 2018 – October 2023** Doctor of Philosophy Entitled “**Multipotential Aspects of Calcium Carbonate Based Nanostructure in Pharmaceutical and Environmental Applications**” under the guidance of Dr. N. Suganthi, Department of Nanoscience and Technology, Alagappa University, Karaikudi, Tamilnadu, India.
- ❑ **2016 - 2018:** M.Sc., Nanoscience and Nanotechnology, Department of Nanoscience and Technology, Alagappa University. (CGPA Grade – 7.71).
University Rank Holder – First Rank
- ❑ **2013-2016:** Advanced Diploma in Applied Biotechnology in Department of Biotechnology, Rathnavel Subramaniam College of Arts & Science, as a Career Oriented Programme.
- ❑ **2013 - 2016:** B.Sc., Biotechnology, Rathnavel Subramaniam (RVS) College of Arts and Science, Coimbatore, Tamilnadu, India. (CGPA Grade: 6.6).

Research and Work experience:

- Presently working as Research Associate in **ELIES BIOTECH PRIVATE LIMITED**, Erode, Tamilnadu India.
- Received Student Project as a Co-Principal Investigator entitled “**Bio-Waste Derived Hydroxyapatite Nanofertilizer for Smart and Sustainable Agriculture on Tropical Vegetables**” Under **Entrepreneurship, Innovation and Career Hub, RUSA Phase 2.0** Scheme at Department of Nanoscience and Technology, Alagappa University, Karaikudi, India
- Worked as a Project Assistant in the **MHRD - Rashtriya Uchchatar Shiksha Abhiyan (RUSA) - TBRP** Project entitled “**Advanced Nano Materials for Energy and Environmental Applications**” 01.02.2023 to 29.02.2024 at Department of Nanoscience and Technology, Alagappa University, Karaikudi, India
- Worked as a Project Fellow in the **DST – Promotion of University Research and Scientific Excellence (PURSE)** Scheme during 01. 10. 2019 to 31. 01. 2023 at Department of Nanoscience and Technology, Alagappa University, Karaikudi, India.
- Master of Science project entitled “***In-Vitro* Evaluation of Neuroprotective, Antimicrobial and Antibiofilm Efficacy of Nanoencapsulated Triphala Churna**” during December 2017 to April 2018
- Bachelor of Science project entitled “**Biodegradation of Jakazol Reactive Blue Dye by Bacterial Isolates from Textile Effluent**” during November 2015 to April 2016

Technical Skills:

- Known to operate and interpret data from UV- Visible spectrometer, Fluorescence spectrometer, Multiplate reader, Optical and Fluorescent microscopes, X-Ray diffractometer, Scanning electron microscope, Transmission electron microscope and Fourier transform infrared spectroscopy, Atomic force microscopy, Dynamic light scattering with zeta analyzer.
- Experienced with technical and theoretical knowledge in the field of microbiology, plant/animal cell culture, nanomaterial fabrication/functionalization, forensic, food and medical lab biotechnology.
- Gathered experience in synthesis of nanoscale materials from the biogenic wastages
- Well-versed in nano-immobilization techniques such as fabrication of nanoformulations, nanocomposites and nanoencapsulations for pharmaceutical and environmental applications
- Photoshop, CorelDraw, Origin, X’pert Pro, Image J, ANOVA SPSS

Research Publications:

1. **Prakashkumar Nallasamy**, Thenmozhi Ramalingam, Thajuddin Nooruddin, Rajasree Shanmuganathan, Pugazhendhi Arivalagan, Suganthi Natarajan. Polyherbal drug loaded starch nanoparticles as promising drug delivery system: Antimicrobial, antibiofilm and neuroprotective studies. **Process Biochemistry**. 92 (2020), 355-364 ([Impact Factor: 4.4](#)).
2. **Prakashkumar Nallasamy**, Vignesh M, Brindhadevi Kathirvel, Nguyen-Tri Phuong, Pugazhendhi Arivalagan, Suganthi Natarajan. Enhanced antimicrobial, antibiofilm and anticancer activities of biocompatible neem gum coated palladium nanoparticles. **Progress in Organic Coatings**. 151 (2021), 106098 ([Impact Factor: 6.6](#)).
3. **Prakashkumar Nallasamy**, Bhagavathi Sundaram Sivamaruthi, Chaiyavat Chaiyasut, Suganthi Natarajan. Decoding the neuroprotective potential of methyl gallate-loaded starch nanoparticles against beta amyloid-induced oxidative stress-mediated apoptosis: An in vitro study. **Pharmaceutics**. (2021), 13(3), 299 ([Impact Factor: 5.4](#)).
4. Bhagavathi Sundaram Sivamaruthi, **Prakashkumar Nallasamy**, Natarajan Suganthi, Periyannaina Kesika, Chaiyavat Chaiyasut. Pharmaceutical and biomedical applications of starch-based drug delivery system: A review. **Journal of Drug Delivery Science and Technology**. 77 (2022), 103890 ([Impact Factor: 5](#)).
5. **Prakashkumar Nallasamy**, Mohamed Asik Rajmohamed, Kavitha Thangavel, Archunan Govindaraju, Suganthi Natarajan. Unveiling the anticancer and antibiofilm potential of catechin overlaid reduced graphene oxide/zinc oxide nanocomposites. **Journal of Cluster Science**. 33 (2022), 2813 - 2830 ([Impact Factor: 2.8](#)).
6. **Prakashkumar Nallasamy**, Beemashafreen Rajamohamed, Jeyakanthan Jeyaraman, Brindhadevi Kathirvel, Suganthi Natarajan. Regenerative marine waste towards CaCO₃ nanoformulation for Alzheimer's therapy. **Environmental Research**. 225 (2023), 115631 ([Impact Factor: 8.3](#)).
7. **Prakashkumar Nallasamy**, Suganthi Natarajan. Folic acid receptor conjugated mesoporous CaCO₃ nanoformulation for the therapeutic potential against lung carcinoma. **Journal of Drug Delivery Science and Technology**. 92 (2024), 105392. ([Impact Factor: 5](#))
8. **Prakashkumar Nallasamy**, Suganathan Muthalagu Ramalingam Muthalagu, Suganthi Natarajan. Fishwaste derived hydroxyapatite nanostructure combined with black rice wine for potential antioxidant and antimicrobial response. **Current Microbiology**. 81, 278 (2024). ([Impact Factor: 2.3](#))

9. **Prakashkumar Nallasamy**, and Suganthi Natarajan. Organic fertilizer integrated with marine waste derived CaCO_3 nanocarrier system: A focus on enhanced yield and quality in tomato cultivation. **Scientific Reports**. 14, 25299 (2024). ([Impact Factor: 3.8](#))
10. **Prakashkumar Nallasamy**, Girija Srinivasan, Thenrajan Thatchanamoorthy, Wilson Jeyaraj, and Suganthi Natarajan. Dual Functionality of hydroxyapatite nanocarriers in neurodegenerative biomarker management as immunosensor and neuroprotective therapeutic system. **Microchemical Journal**, 208, 112358 (2024). ([Impact Factor: 4.9](#))
11. **Prakashkumar Nallasamy**, Mysoon M. Al-Ansari, Priyadharshini Manikam, and Suganthi Natarajan. Agro-waste derived rGO/ CaCO_3 hybrid nanostructure as green adsorbent for waste water treatment. **Journal of the Taiwan Institute of Chemical Engineers**, 105925 (2025). ([Impact Factor: 5.5](#))
12. **Prakashkumar Nallasamy**, Pavithra Kannan, Manickam Selvaraj, Mohammed A. Assiri and Suganthi Natarajan. Natural biomass derived carbon quantum dots: A path to antioxidant, anticancer, antibiofilm and bacterial bioimaging potential. **Microchimica Acta**, 192, 286 (2025). ([Impact Factor: 5.4](#))

Book Chapters:






1. **Prakashkumar Nallasamy**, Suganthi Natarajan. Algal Nanotechnology: Scope and Limitations. In: Devarajan Thangadurai, Jeyabalan Sangeetha, Ram Prasad. (eds) [Bioprospecting Algae for Nanosized Materials](#). [Nanotechnology in the Life Sciences](#). Springer, Cham.
2. **Prakashkumar Nallasamy**, Suganthi Natarajan. Starch-based Drug Delivery System: A Review on Pharmaceutical and Biomedical Applications. In: Abraham J Domb, Sougata Jana, Subrata Jana (eds) [Polysaccharide-based Biomaterials: Delivery of Therapeutics and Biomedical Applications](#). **Royal Society of Chemistry**.

List of Papers presented in the National/International Conferences, Seminars and Workshops

1. Obtained **“BEST PRESENTOR AWARD”** for the research paper entitled **“Biogenic Waste Derived CaCO_3 Nanofertilizer for Control and Treatment against Plant Fusarium Wilt Disorder and Nutritional Deficiency on Tomatoes”** on **International Conference on INNOVATIVE APPROACHES IN LIFE SCIENCES - ICIALS23** organized by **Department of Food Science & Nutrition, The American College, Madurai, Tamilnadu, India** on 24. 03. 2023 and 25. 03. 2023.
2. Received **“BEST PRESENTOR AWARD”** for the research paper entitled **“Marine Waste Derived CaCO_3 Nanoparticles as Neuroprotective Carrier System”** on **International Workshop on Emerging Materials and Modeling for Future Technology (EMMFT-2022)** organized by **Centre for Nanoscience and Technology, Anna University, Chennai, Tamilnadu, India** on 03.09.2022.
3. Presented research paper entitled **“Marine Waste Derived CaCO_3 Nanoformulation for Breast Cancer Therapy”** on **INTERNATIONAL CONFERENCE ON CURRENT TRENDS IN MEDICINAL CHEMISTRY (CTMC-2K23)** organized by **Saveetha Dental College & Hospital, Saveetha Institute of Medical and Technical Sciences (SIMATS) Saveetha University, Chennai, Tamilnadu, India** on the 24.01.2023 and 25.01.2023.
4. Presented research paper entitled **“Biogenic Waste Derived rGO/CaCO_3 Nanocomposites for Waste Water Management”** at **International Conference on Recent Advancement in Materials Science and its Applications (ICRAMSA-23)** organized by **Research Department of Physics, Mannar Thirumalai Naicker College, Madurai, Tamilnadu, India** on 11.01.2023 and 12.01.2023
5. Presented research paper entitled **“Carbon Quantum dots labelled CaCO_3 nanoformulation for Lung Cancer Therapy”** on **2nd International Conference on Advanced Nanomaterials for Energy and Environmental Applications (ICANEE-2023)** organized by **Department of Nanoscience and Technology, Alagappa University, Karaikudi, Tamilnadu, India** during 09.02.2023 to 11.02.2023
6. Presented research paper entitled **“Anticancer Potential of rGO-ZnO Nanocomposite Synthesized by Hydrothermal Method”** on **International Conference on Nanomaterials Driven Advances in Chemical and Biosensors (NanoSe 2019)** organized by **Department of Bioelectronics and Biosensor, Alagappa University, Karaikudi, Tamilnadu, India** during 27.11.2019 to 29.11.2019
7. Presented research paper entitled **“Encapsulation of gallic acid derivative with starch matrix- *In-vitro* evaluation of antioxidant, antibiofilm and antioxidant potential”** on **25th World Congress on Advanced Materials** organized by **Conference Series LLD** during 21.10.2019 and 22.10.2019 in Singapore.
8. Presented research lecture entitled **“Synthesis of ZnO Nanoparticles using Termite and Ant Mount Extract: *In-vitro* Evaluation of Antioxidant and Photovoltaic Efficacy”** on **“INTERNATIONAL CONFERENCE ON RECENT ADVANCES IN APPLIED CHEMICAL SCIENCES (ICRAACS-2019)”** organized by **Department of Chemistry, Sree Sevugan Annamalai College, Devakottai, Tamilnadu, India** during 06th September 2019.

9. Presented research paper entitled “Comparative Study on Nanoencapsulated Synthetic and Ayurvedic Matters; *In-vitro* Evaluation of Neuroprotective and Antimicrobial Efficacies” on “INTERNATIONAL CONFERENCE ON FRONTIER AREA IN CHEMICAL TECHNOLOGIES – 2019 (FACTs - 2019)” organized by Department of Industrial Chemistry, School of Chemical Sciences, Alagappa University, Karaikudi, Tamilnadu, India during 25th and 26th July 2019.
10. Presented research paper entitled “Evaluation of Antioxidant and antimicrobial efficacy of Starch Encapsulated Methyl Gallate – An *In-vitro* study” in the India-UK Second International Conference “Advanced Nanomaterials for Energy, Environment and Healthcare Applications (ANEH-2019)” held at PG & Research Department of Physics, Bishop Heber College, Tiruchirappalli, Tamilnadu, India during 4th to 6th February 2019.
11. Presented lecture entitled “Comparative Study of Antibacterial and Antioxidant activities of ZnO Nanoparticles synthesized through various Routes” on “3rd International Conference on Recent Trends in Microbiology (RTM-2019)” organized by Department of Microbiology, Alagappa University, Karaikudi, Tamilnadu, India.
12. Presented research paper entitled “In vitro Evaluation of Neuroprotective, Antibacterial and Antibiofilm efficacy of Starch Encapsulated Triphala Churna” on 5th International Conference at Nanoscience and Nanotechnology (ICONN-2019) organized by Department of Physics and Nanotechnology, SRM Institute of Science and Technology, Chennai, Tamilnadu, India during 28.01.2019 to 30.01.2019

In-Plant Training:

-  **Hands on training programme dealing with molecular biology techniques** conducted by Centre for Nanoscience Research, Coimbatore, Tamilnadu, India.
-  Two days Training programme on “**High-resolution Transmission Electron Microscopy, Scanning Electron Microscopy and Scanning Probe Microscopy**” organized by NRIIC, PSG college of Technology and PSG Science and Technology Entrepreneurial Park, Coimbatore during 14th and 15th September, 2018.
-  Five Day Workshop on “**TECHNICAL COMMUNICATION SKILLS: DRAFTING AND PRESENTING RESEARCH PAPERS**” organized by Department of Humanities and Social Sciences, National Institute of Technology, Warangal, Telangana.
-  Two days Workshop on “**CeNSE DBT Nano-biotechnology Alliance (C-DNA) Inaugural Workshop**” hosted by Centre for Nano Science and Engineering (CeNSE), IISc, Bangalore on 4th and 5th November, 2019.
-  5 days of **C-DNA hands-on training program** conducted by Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore supported by Department of Biotechnology (DBT).

Attended Seminar/Workshops

1. Participated in the **National seminar “Nanomaterials for specialized Application (NMSA-2017) & World Standards Day”** organized by the Department of Nanoscience and Technology, **Alagappa University** on 9th & 10th February 2017.
2. Participated in the International Workshop on **“Molecular Physiology, Therapeutics and Experimental Medicine”** organized by **Department of Animal Health and management, Alagappa University**, Karaikudi on 6th and 7th September 2016.
3. Participated in **“International Lecture Workshop on Advanced Materials Engineering”** on 26th September, 2016, organized by **Thiagarajar Collage of Engineering**, Madurai.
4. Participated in the National Workshop **“Material Chemistry for Future Industrial Development (MATCH FIND - 2017)”** organized by **Department of Industrial Chemistry, Alagappa University**, Karaikudi on January 6th & 7th, 2017.
5. Participated in the **“Business oriented Hands-on Training on Analytical Instrumentation (HI-BOAT2017)”** organized by Department Physics in collaboration with BCC & ICC, **Alagappa University**, Karaikudi on 2nd & 3rd March 2017
6. Participated in **“International Workshop in Biomedical Applications in Translational Research (BATR- 2019)”** jointly organized by the Semmelweis University, Hungary and Alagappa University & Health careCentre during 6th and 7th June 2019.

Personal Details:

Name : PRAKASHKUMAR NALLASAMY

Date of Birth : 10.04.1996

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Languages Known : Tamil, English.

References:

Dr. N. Suganthy Assistant Professor Department of Nanoscience and Technology, Alagappa University, Karaikudi -630003, Tamilnadu, India. Contact: +91 9790252506 Email: suganthy.n@gmail.com ; suganthyn@alagappauniversity.ac.in	Dr. Arivalagan Pugazhendhi Professor Centre of Bioengineering, School of Engineering and Sciences, Tecnologico de Monterrey, Queretaro 76130, Mexico Contact: +91 9715631723 Email: pugal.smile@gmail.com pugal.smile@tec.mx	Dr. G. Annadurai Professor Co-ordinator for Nanoscience Division Sri Paramakalyani Center for Environmental Science Manonmaniam Sundaranar University, Alwarkurichi – 627412, Tamilnadu, India. Contact: + 91 94420 27196; + 91 86106 57815 Email: gannadurai@msuniv.ac.in ; annananoteam@gmail.com
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Declaration:

I hereby declare that all the statements made above are true to my knowledge, and I bear the responsibility for the correctness of the above-mentioned statements.

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