

Dr. BALAJI.A.P.B
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CAREER GOAL:

To work in a competitive and challenging environment where I can fully utilize my Interpersonal, Innovation, Research and Academic skills for the benefit of mankind

EDUCATIONAL QUALIFICATIONS

✓ **Ph.D. Nanobiotechnology (2012 - 2017) B Grade (70-79%)**

Thesis entitled “Nanoformulation of Pesticides and Its Studies on Vector Mosquitoes”
from Centre for Nanobiotechnology, VIT University, Vellore, Tamil Nadu, India.

✓ **M.Sc. Biotechnology (2009 - 2011): (68.35 %)**

University of Madras, Guindy Campus, Chennai, Tamil Nadu, India

✓ **B.Sc. Biotechnology (2006 - 2009): (66.00 %)**

Prince Shri Venkateshwara Arts & Science College, Chennai, Tamil Nadu, India

✓ **XII Std (2006): (74.66%)**

Sir Mctm. Higher Secondary School, Chennai, Tamil Nadu, India

✓ **X Std (2004): (63.81%)**

Valliammal Matriculation Higher Secondary School. Chennai, Tamil Nadu, India

WORK EXPERIENCES & SKILLS:

I possess total work experience of **8 + yrs** in the field of Analytical techniques, Nanoencapsulation, Drug carriers, Emulsion Technologies, Nanopesticide formulation, Toxicity studies, Microbiology, Environmental and Biosafety studies as follows:

VANTA BIOSCIENCE PVT. LTD - (June 2019 – Present)

- Working as a “Senior Research Scientist- Analytical Chemistry Division” in Vanta Bioscience Pvt Ltd, Chennai
 - ✓ Performing Analytical chemistry studies for non-clinical health and environmental studies as per GLP and OECD guidelines

SPINCO BIOTECH PVT. LTD - (Jan 2017 – June 2019) – 2 year 5 months

- Working as a “Field application specialist” in Spinco Biotech Pvt. Ltd, (Shimadzu HPLC and LCMS distributors) Perungudi, Chennai and providing application support to the Shimadzu users
 - ✓ Expertise in Method development, Method optimisation, Root-cause analysis and troubleshooting
 - ✓ Qualified IQ, OQ Personnel to install and operate LC, LCMS, Informatics in compliance with GLP/ GMP, Certified by Shimadzu (Asia Pacific) Pvt Ltd.
 - ✓ Providing application support on the following products
 - LCMS- Triple quadruple
 - LCMS- Single quadruple
 - 2D LCMS
 - Conventional HPLC
 - UHPLC
 - Preparative HPLC and
 - Interchim Flash chromatography
 - ✓ Scaling up the Analytical method to Preparative for efficient compound separation with purity
 - ✓ Application notes and Work flow development
 - ✓ Pre-sales and Post-sales practical demonstration of instrument capabilities and technical discussion
 - ✓ Lecture talk/ Presentation on the chromatography techniques, and recent advancements
 - ✓ Conducting in-house workshops, training program to the end-users and students
 - ✓ Instrument installation and support to the critical service calls
 - ✓ Corporate presentation, Conducting maintenance workshops
 - ✓ Literature survey on compound transition and structure prediction
 - ✓ Instrument validation as per customer SOP and providing CAPA

✚ VIT UNIVERSITY - (August 2012- January 2017) – 4 year 5 months

- Worked as a “JRF” and “SRF” in the LSRB-DRDO Project entitled “Nanoformulation of Pesticide - An efficient insect repellent for Military soldiers” at Centre for Nanobiotechnology, VIT University, Vellore, Tamil Nadu, India.
 - ✓ Development of HPLC method for Nanopesticide, identification, quantification in the aqueous and soil matrix
 - ✓ DLS studies on measuring the nanoparticle size
 - ✓ Emulsion Technologies, Drug Carriers and Delivery Vehicles
 - ✓ Nanoformulation of Pesticides and Insect Repellents
 - ✓ Characterization and Stability studies on Nanopesticides
 - ✓ Bioefficacy Studies of Nanopesticides on target organism (Mosquito population)
 - ✓ Nanopesticides; Environmental Fate & toxicity towards the Non-target organisms
 - ✓ Evaluation of toxicity profile by Histological and Biochemical studies
 - ✓ Identification of Mosquito species, Insect maintenance and Vector Control Strategies

✚ UNIVERSITY OF MADRAS - (May 2011- March 2012) – 11 Months

- Worked as a “Project Fellow” in the NCNSNT Project entitled “Studies on Nanomaterials based siRNA transfection system against angiogenic factor in metastatic gastric cancer” at Department of Zoology, Unit of Biochemistry, University of Madras, (Guindy Campus), Chennai, Tamil Nadu, India.
 - ✓ Synthesis, Characterization of Silver Nanoparticles and Bioconjugation
 - ✓ Extraction, Isolation, Purification of RNA, DNA, and Proteins
 - ✓ Qualitative and Quantitative analysis of RNA, DNA, and Proteins

PROJECTS & DISSERTATIONS:

✚ IIT KHARAGPUR - (January 2011-April 2011)

- M.Sc., Project dissertation entitled “Dispersion stability of silica nanoparticle by 3-Aminopropyltrimethoxysilane and its antibacterial activity against *E.coli*” at Nanomaterials Laboratory, Department of Chemistry, Indian Institute of Technology (IIT) Kharagpur, West Bengal, India
 - ✓ Synthesis, functionalization and evaluation of bactericidal activity of silica nanoparticles Synthesis of Carbon Nanoparticles (CNP) and Carbon Nanotubes (CNT)
 - ✓ General microbiology techniques and SOP’s

✚ CLRI- (CSIR)- (May 2010 - June 2010)

- M.Sc., Summer Internship program entitled “Collagen extraction from leather waste and application for eco-friendly products” at Bioproducts Laboratory, Senior Principal Scientist and Director, Central Leather Research Institute (CLRI-CSIR), Chennai, Tamil Nadu, India in the field of Environmental Science, Biomaterials, and Tissue Engineering

- ✓ Extraction of Collagen from leather waste and Gelatin from fish scales
- ✓ Preparation of Bio-based Scaffolds, Thin Films as a Wound healing material
- ✓ Development of Gelatin-based transparent thin film for Corneal implant
- ✓ Preparation of Bone implants from various Bioactive and Biocompatible Materials
- ✓ Development of value added Eco-friendly products from Tannery solid waste leather materials such as chrome shavings

RESEARCH PUBLICATIONS:

- I have published total of 8 International Peer reviewed Research articles (First authored 4 and co-authored 4) and Reviewer of Elsevier.
- Got “Certificate of Appreciation-Research Award 2015 and 2016 ” from VIT University for the significant contribution towards peer-reviewed research publications

Total Publications	Total Citations	h- index	i-10 index
8	65	6	2

1. **Balaji, A. P. B.,** P. Mishra, R. S. Suresh Kumar, A. Mukherjee and N. Chandrasekaran (2015). Nanoformulation of poly(ethylene glycol) polymerized organic insect repellent by PIT emulsification method and its application for Japanese encephalitis vector control, Vol. 128, pp. 370-378. **Elsevier - Colloids and Surfaces B: Biointerfaces (Impact Factor 4.295)**
2. **Balaji, A. P. B.,** T.P. Sastry, S. Manigandan, A. Mukherjee and N. Chandrasekaran (2015). Environmental benignity of pesticide in the form of soft colloidal nanodispersion with an exhibition of higher toxic precision on target organisms than non-target organisms, Vol. 579, pp.190-201. **Elsevier -Science of the Total Environment (Impact factor 5.102).**
3. **Balaji, A. P. B.,** P. Mishra, R. S. Suresh Kumar, A. Ashu, K. Margulis, S. Magdassi, A. Mukherjee and N. Chandrasekaran (2015). The Environmentally Benign form of Pesticide in Hydrodispersive Nanometric form with Improved Efficacy Against Adult Mosquitoes at Low Exposure Concentrations, Vol. 95, pp. 1-6. **Springer - Bulletin of Environmental Contamination and Toxicology (Impact Factor 1.412).**
4. **Balaji, A. P. B.,** T.P. Sastry. A. Mukherjee and N. Chandrasekaran (2016) Polymeric Nanoencapsulation of insect repellent: Evaluation of its bioefficacy on *Culex quinquefasciatus* mosquito population and effective impregnation onto cotton fabrics for insect repellent clothing. Vol. 29, pp. 517-527. **Elsevier - Journal of King Saud University, (Impact Factor 1.55)**
5. Mishra, P., **Balaji A. P. B.,** J.S. Swathy, L.P. Aruna, M. Kezhiah, B.K. Tyagi, A. Mukherjee and N. Chandrasekaran (2016). Stability assessment of hydro dispersive nanometric permethrin and its biosafety study towards the beneficial bacterial isolate from paddy rhizome, pp. 1-13. **Springer-Environmental Science and Pollution Research. (Impact Factor 2.741)**
6. Sundaramoorthy, R., Y. Velusamy, **A. P. B. Balaji,** A. Mukherjee and N. Chandrasekaran (2016). Comparative cytotoxic and genotoxic effects of permethrin and its nanometric form on human erythrocytes and lymphocytes *in vitro*, Vol. 257, pp. 119-124. **Elsevier - Chemico-Biological Interactions. (Impact Factor 3.180)**

7. Mishra, P., **A. P. B Balaji**, P.K Dhal, Suresh Kumar RS, S. Magdassi K. Margulis, B.K. Tyagi. A. Mukherjee and N. Chandrasekaran (2016). Stability of nano-sized permethrin in its colloidal state and its effect on the physiological and biochemical profile of *Culex tritaeniorhynchus* larvae. Vol. 107, pp. 676-688. **Cambridge Journals - Bulletin of Entomological Research (Impact Factor 1.761)**
8. Prabhakar Mishra, **A.P.B.Balaji**, Amitava Mukherjee, Natarajan Chandrasekaran (2018). Bio-Based Nanoemulsions: An Eco-Safe Approach Towards the Eco-Toxicity Problem. In: Martínez L., Kharissova O., Kharisov B. (eds) Handbook of Ecomaterials. Springer, Cham. pp. 1-23. **Springer Nature - Handbook of Ecomaterials**

CONFERENCES/ WORKSHOPS / SEMINARS:

ANALYTICAL TECHNIQUES

- ✓ Conducted “HPLC Troubleshooting and Maintenance workshop” at API plant, Strides Shasun, Periya Kalapet, Puducherry
- ✓ “HPLC Basics and Principles” guest lecture at Indian Cardamom Research Institute, Malaiadumpara, Kerala
- ✓ Guest lecture on “Recent advancements of LCMS for the Drugs and impurity identification” at IISM, Department, SRM University
- ✓ Guest lecture on “HPLC Basics, Principles, Scaling up the analytical to Preparative HPLC method” at Department of Botany, Bharatiyar University, Coimbatore
- ✓ Guest lecture on “Differential features of PDA over UV-detector for unknown compound identification” at Periyar University, Salem
- ✓ Guest lecture on “Recent advancements of analytical techniques for the “Therapeutic drug monitoring and NBS” at CMC, Hospital, Vellore
- ✓ Guest lecture on “Chromatography in Isolation: Analytical to Preparative to Flash” at 6th & 7th Training programme conducted by Tamilnadu Pharmaceutical Sciences Welfare Trust

NANOFORMULATIONS

- ✓ Oral Presentation entitled “Nanoformulation of pesticides for sustained and controlled release” at XVI National Conference on Surfactants, Emulsions and Biocolloids (NATCOSEB) 2013, at CLRI-CSIR, Chennai, Tamil Nadu, India
- ✓ Oral Presentation entitled “Nanoformulation of Pesticides with improved efficacy towards mosquito vectors” at Brain storming conference on Emerging new epidemiological dimensions of Japanese encephalitis (JE) and other Acute Encephalitis Syndromes (AES), Centre for Research in Medical Entomology (ICMR), Madurai, Tamil Nadu, India.
- ✓ Oral Presentation entitled “New generation pesticides to overcome the challenges” at 10th International Conference on Science, Engineering and Technology, VIT University, Vellore, Tamil Nadu, India.

- ✓ Oral Presentation entitled “Environmentally benign nanopesticides with higher efficacy” at 7th Conference on Medical Arthropodology, Defence Research Laboratory (DRL), DRDO, Tezpur, Assam, India
- ✓ Oral presentation entitled “Surface encapsulation of pesticides for the sustained release in paddy fields” at 3rd National Conference on *Lymphatic Filariasis – Elimination 2015- Mission Possible* held at Centre for Research in Medical Entomology (ICMR), Madurai, Tamil Nadu, India
- ✓ Workshop on “Biomaterials and Nanomaterials in Medicine & Wound Management with Biomimetic Polymeric Materials” held at VIT University, Tamil Nadu, India

MISCELLANEOUS SKILLS:

- ✓ Certificate course in Medical Transcription.
- ✓ Essentials of Language and Communication.
- ✓ Personality Enrichment Level –I
- ✓ Language and Communication Advance Level

PERSONAL ASSETS:

- ✓ Effective Communication and Presentation Skills
- ✓ Supervisory and Managerial Skills
- ✓ Strong Writing and Academic Skills
- ✓ Research Development and Management Skills
- ✓ Systemic Oral Skills and Comprehensive Reading
- ✓ Hard Working & Creative Thinking
- ✓ Proposal, Progress Report, and Technical Report Writing

REFERENCES:

1. Dr. Saralashrita Mohanty

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DECLARATION:

I do hereby declare that all the details furnished above are true to the best of my knowledge

(Dr. BALAJI.A.P.B)

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