

## Curriculum Vitae

### Madanagopal Nalini

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Date of Birth : 27/06/1969

Father's Name : M. Madanagopal

### EDUCATION

INSTITUTION AND LOCATION	DEGREE	YEAR OF COMPLETION	FIELD OF STUDY
Madras Christian College, Chennai, Tamil Nadu	B.Sc.	1989	Zoology
Annamalai University, Chidambaram, Tamil	M.Sc.	1991	Zoology
University of Madras, Chennai, Tamil Nadu	M.Phil.	1992	Zoology (Immunology)
University of Madras, Chennai, Tamil Nadu	Ph.D.	2002	Zoology (Immunology)
Masaryk University, Brno, Czech Republic	Post-Doctoral Fellow	2005	Insect Immunity
Andong National University, Republic of Korea	Post-Doctoral Fellow	2008	Insect Molecular Physiology

### From December 2008 to June 2009

Senior Lecturer, Dept. of Industrial Biotechnology, **Dr. M.G.R. University**, Maduravoyal, Chennai

#### Work profile:

1. **Molecular Cell Biology** classes for **B.Tech. Industrial Biotechnology** students.
2. **Molecular Biology** classes for **B.Tech. Bio-Informatics** students.

### From December 2009 to February 2016

Assistant Professor, Dept. of Biotechnology, **Karpagam Academy of Higher Education**, Eachanari Post, Pollachi Main Road, Coimbatore.

#### Work profile:

1. **Bioprocess Technology, Bioinstrumentation & Biostatistics** (theory), **Immunology & Animal Biotechnology** (theory & practical) for **M.Sc. Biotechnology** students.
2. **Food & Bioprocess Technology, Environmental Biotechnology & IPR, Principles of Immunology & Immunotechniques** (theory & practical) & **Bioinstrumentation** (theory) for **B.Sc. Biotechnology** students.

**From March 2016 to till date**

**Assistant Professor**, PG & Research Dept. of Zoology, **Poompuhar College (Autonomous)**, under H R & C E administrative, Melaiyur 609 107, Sirkazhi Taluk, Mayiladuthurai District.

**Work profile:**

**Invertebrata & Chordata** (theory & practical), **Immunology** (theory & practical), **Biotechnology** (theory & practical), **Biofertilizers & its Applications**, **Biophysics & Biostatistics**, **Economic Zoology**, **Communicable Diseases & Management**, **Ornamental Fish Farming** (theory), for **B.Sc. Zoology** students.

**Guiding students :**

Degree	Awarded
Ph.D. Biotechnology	04
Zoology	01
M.Phil. Biotechnology	01

**Area of Research** : Molecular Physiology - Immunobiology of Invertebrates

**Research Specialization** : (1) Mechanisms of humoral and cellular immunity in arthropods and molluscs  
(2) Molecular Physiology of Insects  
(3) Heavy metal toxicity and regulation in molluscs

**Techniques known** : Microscopy:  
- Phase-contrast  
- Fluorescence  
- Confocal  
- SEM & TEM  
Spectrophotometry  
Chromatography  
Electrophoresis  
Blotting techniques  
Produce antibodies in animal models  
Immunocytochemistry & Immunohistochemistry  
Cell separation studies  
*In vitro* studies using hemocytes to analyze phagocytosis, encapsulation & cytotoxic studies  
Cell and Tissue Culture  
Molecular techniques:  
- Isolation of nucleic acids  
- Genetic manipulation  
- Cloning  
- Sequencing  
- *In vitro* translation  
- Gene silencing studies

### ***Other Research and Teaching activities***

- Co-ordinated a **“Hands on Training Programme of Phytochemical Screening of Plants with Larvicidal Activity”**, *between May 31 and June 4, 2010* for graduate and research students.
- Organized one-day Workshop on **“Cellular Functions & Microscopy”**, *on March 8, 2012* for undergraduate, graduate, research students and faculty members.
- Co-ordinated Science Academies’ Lecture Workshop on **“Biological Sciences: Research Prospects and Applications”**, *between September 25 & 26, 2014* for undergraduate, graduate, research students and faculty members, sponsored by *Indian Science Academies*.
- Organized One-day workshop on **“Bioinstrumentation”** *on August 26, 2015* for undergraduate, graduate, research students and faculty members.
- Co-ordinated One day Seminar on **“Recent Trends in Advanced Bio-Sciences”** *on January 9, 2019* for graduates, research students and faculty members.
- Organized **“Beach Cleanup Drive”** on *September 10, 2022* under aegis of **Swachh Sagar Surakshit Sagar** campaign initiated by **Ministry of Earth Sciences, Government of India**, along with undergraduate students and faculty of PG & Research Dept. of Zoology, Poompuhar College, Melaiyur.
- Organized **“National Science Day”** celebrations on *February 28, 2023* for undergraduate, graduate, research students and faculty members, PG & Research Dept. of Zoology, Poompuhar College, Melaiyur.
- Synchronized **Bird Census** along with Forest Department at Udayamarthandapuram Birds Sanctuary, Muthupettai, January 28 & 29, 2023 & March 4 & 5, 2023.
- NSS Camp Officer 2022-2023 (March 22 to 29, 2023)
- **Butterfly Walk** on September 12, 2023 – Poompuhar College campuses
- Synchronized **Bird Census** along with Forest Department at Udayamarthandapuram Birds Sanctuary, Muthupettai, January 27 & 28, 2024.
- Organized *Special Lecture on* **“Herbs for Healthy Life”** on *March 8, 2024* for undergraduate, graduate, research students and faculty members, PG & Research Dept. of Zoology, Poompuhar College, Melaiyur.
- Organized **National Conference on Current Scenario in Biological Sciences (CSBS-2024)** on *December 9 & 10, 2024* partially supported by Tamil Nadu State Council for Science and Technology, Chennai.

***Guest Lectures delivered :***

- (1) **"Journey of an Innovative Product from Idea to Patent"** at Crescent School of Business, Chennai on May 28, 2024 for MBA Innovation, Entrepreneurship and Venture Development students.
- (2) **"Major Histocompatibility Complex and its significance"** and **"Hypersensitivity and its types"** at Dept. of Zoology, Bharathiar University, Coimbatore, on March 5, 2024 for M.Sc. students and Research Scholars.
- (3) **"Circulation"** and **"Excretion"** at Dept. of Zoology, Bharathiar University, Coimbatore, on November 4, 2023 for M.Sc. students and Research Scholars.
- (4) **"Polydnavirus : An Overview"** at Dept. of Zoology, Thiruvalluvar University, Vellore, on September 15, 2023 for M.Sc. students and Research Scholars.
- (5) **"Respiration"** and **"Nervous System"** at Dept. of Zoology, Bharathiar University, Coimbatore, on November 11, 2022 for M.Sc. students and Research Scholars.
- (6) **"Artificial Intelligence in Immunodeficiency diseases"** and **"Congenital and Acquired Immunodeficiency"** at Dept. of Zoology, Bharathiar University, Coimbatore, on March 16, 2022 for M.Sc. students and Research Scholars.
- (7) **"Nervous System"** and **"Neurotransmitters"** at Dept. of Zoology, Bharathiar University, Coimbatore, on November 1, 2019 for M.Sc. students and Research Scholars.
- (8) **"Vaccines: Production & Applications"** and **"Transplantation Immunology"** at Dept. of Zoology, Bharathiar University, Coimbatore, on February 18, 2019 for M.Sc. students and Research Scholars.
- (9) **"Hypersensitivity Reactions"** and **"Immunodeficiency Diseases"** at Dept. of Zoology, Bharathiar University, Coimbatore, on February 22, 2018 for M.Sc. students and Research Scholars.
- (10) **"Ganges-India"** at D.G. Govt. Arts College (W), Mayiladuthurai on December 20, 2017 at Dept. of Zoology Association Meeting.
- (11) **"Clean Ganga"** at Nirmala College for Women, Coimbatore on July 23, 2015 for inauguration of Zoology Association.
- (12) **"Principles & Applications of poly DNA in Agriculture"** at Centre of Advanced Faculty Training, Tamil Nadu Agricultural University, Coimbatore, on December 18, 2014 in the Advanced Training Course on *Functional Insect Pest Management*.
- (13) **"Transplantation Immunology"** and **"Immune Disorders"** at Dept. of Zoology, Bharathiar University, Coimbatore, on September 30, 2014 for M.Sc. students and Research Scholars.
- (14) **"Major Histocompatibility Complex"** and **"Autoimmune diseases"** at Dept. of Zoology, Bharathiar University, Coimbatore, on August 14, 2013 for M.Sc. students and Research Scholars.

**(15)“Basic Immunology”** at Dept. of Biotechnology, ShriMathi Indira Gandhi College, Trichy, on February 2, 2013 for M.Sc. students.

**(16)“Respiration”** at Dept. of Zoology, Bharathiar University, Coimbatore, on March 22, 2012 for M.Sc. students and Research Scholars.

***Resource Person :***

<b>S. No.</b>	<b>Title</b>	<b>Venue</b>	<b>Date</b>
1.	Training workshop on Foldscape construction and utilization : to promote awareness in educational institutions	Indian Council of Agricultural Research Mizoram, North-East Region	July 9 & 10, 2018
2.	Foldscape : its Utility	State Institute of Fisheries Kakinada	September 20 to 22, 2018
3.	Solutions to Biological Complexity - Workshop on Foldscape	SASTRA University Thanjavur	September 28, 2018
4.	Microscope: its utility in cell studies & Foldscape Outreach Workshop	Rachel Philip Endowment Workshop Department of Advanced Zoology & Biotechnology Women’s Christian College, Chennai	December 10 to 12, 2018
5.	National Level Workshop on Foldscape and its Applications	Sri Venkateswara College of Engineering, Sriperumbudur Tk	December 21 & 22, 2018
6.	Foldscape : Outreach & Applications	Tamil Nadu Agricultural University Coimbatore	April 22, 2019
7.		Vels University Pallavaram, Chennai	July 20, 2019
8.		Dr. MGR University Maduravoyal, Chennai	July 24 & 25, 2019
9.		Jai Gopal Garodia Government Girl’s Higher Secondary School, Choolaimedu, Chennai	July 26, 2019
10.		Government Girl’s Higher Secondary School, Kuttalam	July 31, 2019
11.	Foldscape : Construction & Utility	E.M. Gopalakrishna Kone Yadava Women’s College, Madurai	August 8, 2019
12.		SOKA IKEDA College Madhanangkuppam, Chennai	August 16, 2019

*Special training undergone/Workshops participated :*

- (1) **Training in cell culture techniques, involving viruses**, during Tissue Culture Workshop conducted by Department of Virology, King Institute of Preventive Medicine, Chennai, India from 5th - 14th December 2001.
- (2) Workshop on **Structural Bioinformatics, Tools to Explore Similarity Search and Sequence Alignment, Sequence Analysis: Experience & Expertise, Molecular Visualization** conducted by Department of Bioinformatics, Dr. G. R. Damodaran College of Science, Coimbatore, India on Jan. 23 & 30, Feb. 6 & 13, 2010.
- (3) Workshop on **Interpretation of Spectral Data and Identification of Phytoconstituents** conducted by Department of Chemistry, Karpagam University, Coimbatore, India between 17<sup>th</sup> and 18<sup>th</sup> February, 2012.
- (4) Science Academies' Lecture workshop on **Thrust areas for future Researchers in Biological Sciences** conducted by Department of Zoology, PSGR Krishnammal College for Women, Coimbatore, India between 27<sup>th</sup> and 28<sup>th</sup> September, 2012.
- (5) National Seminar on **Structural Bioinformatics, Structure Based Drug Design and Hands on Session on Crystal Structure Determination of Small Molecules** conducted by Bioinformatics Infrastructure Facility, University of Madras, Guindy Campus, Chennai, India from 15 -17<sup>th</sup> February, 2013.
- (6) National Seminar on **Functional Genomics & Workshop on Microarray Data Analysis** conducted by Department of Biotechnology, Dr. M.G.R. University, Maduravoyal, Chennai, India from 26 – 28<sup>th</sup> February, 2014.
- (7) Science Academies' Lecture workshop on **Interdisciplinary Approach to Life Science Research** conducted by Department of Zoology, PSGR Krishnammal College for Women, Coimbatore, India between 14<sup>th</sup> and 15<sup>th</sup> March, 2014.
- (8) National Symposium on **Crustacean Biology: Molting, Immunology** conducted by Department of Zoology, University of Madras, Guindy Campus, Chennai, India between 27<sup>th</sup> and 28<sup>th</sup> June, 2014.
- (9) Science Academies' Lecture workshop on **Interdisciplinary Approach of Research to Life Sciences** conducted by Department of Zoology, PSGR Krishnammal College for Women, Coimbatore, India between 19<sup>th</sup> and 20<sup>th</sup> December, 2014.
- (10) Science Academies' Lecture workshop on **Integrated Research Approaches in Biology** conducted by PG & Research Department of Zoology, Nirmala College for Women, Coimbatore, India between 7<sup>th</sup> and 8<sup>th</sup> August, 2015.
- (11) **Workshop and Training on Sequence Analysis and Molecular Simulation**, conducted by Dept. of Biotechnology, Anna University, Chennai, India, between 20<sup>th</sup> and 23<sup>rd</sup> January, 2016.

- (12) **National Level Hands-on Training on Comet Assay**, conducted by PG & Research Dept. of Biotechnology, Kongunadu Arts and Science College, Coimbatore, India on 24<sup>th</sup> February, 2016.
- (13) **National Workshop on Vermitechnology**, conducted by Dept. of Zoology, Annamalai University, Chidambaram, India, on 31<sup>st</sup> August, 2017.
- (14) **Women Scientists and Entrepreneurs, India International Science Festival**, Anna University, IIT Madras, NIOT, Chennai, India, between 15<sup>th</sup> and 16<sup>th</sup> October, 2017.
- (15) **InSearch** One-day Symposium on Insects in Research, Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur, Bangalore, India, on 5<sup>th</sup> January, 2018.
- (16) **National Workshop on Hands-on Training on Molecular Diagnostic Techniques**, conducted by Aquatic Animal Health Laboratory & OIE Reference Laboratory, PG & Research Dept. of Zoology, C. Abdul Hakeem College, Melvisharam, Vellore District, India, from 26<sup>th</sup> February to 3<sup>rd</sup> March, 2018.
- (17) **International Conference on Recent Advances in Food Processing Technology (iCRAFT'18)** conducted by Indian Institute of Food Processing Technology, Thanjavur, Tamil Nadu, India, from 17<sup>th</sup> to 19<sup>th</sup> August, 2018.
- (18) **InSearch** One-day Symposium on Insects in Research, Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur, Bangalore, India, on 18<sup>th</sup> January, 2019.
- (19) **Workshop on Radioactivity** in association with **IANCAS - SRC, IGCAR, Kalpakkam** conducted by PG & Research Dept. of Chemistry, Poompuhar College, Melaiyur, Nagapattinam District, Tamil Nadu, India, on 20<sup>th</sup> September, 2019.
- (20) Two day skill enhancement practices program on **Cryo-section Techniques of Animal Tissues** conducted by Centre of Advanced Study in Marine Biology, Annamalai University, Parangipettai, Tamil Nadu, India, between 5<sup>th</sup> and 6<sup>th</sup> November, 2019.
- (21) **InSearch** One-day Symposium for Inspiring Research, Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur, Bangalore, India, on 17<sup>th</sup> January, 2020.
- (22) One day National Workshop on **Torching the role of Mangroves to the Beneficiaries for the Enrichment of Marine Fishery resources** conducted by Centre of Advanced Study in Marine Biology, Annamalai University, Parangipettai, India, on 2<sup>nd</sup> February, 2022.
- (23) Hands on training programme on **PCR techniques and its applications in aquaculture pathology** at RGCA Technology Transfer Training & Administrative Complex, Sirkazhi, Mayiladuthurai Dist., Tamil Nadu, between 14<sup>th</sup> & 15<sup>th</sup> October, 2022.
- (24) Participated in **National Level Seven Days Upskilling Faculty Development Programme** conducted by Ayya Nadar Janaki Ammal College, Sivakasi, between 21<sup>st</sup> and 27<sup>th</sup> February, 2024.

- (25) Participated in **Faculty Development Program on Biotechnology for Sustainable Development** conducted by R C Patel Arts Commerce and Science College, Shirpur, between 6<sup>th</sup> and 11<sup>th</sup> January, 2025.

**Orientation Programme :** Programme held from May 10, 2017 to June 6, 2017, HRDC-University of Madras, Chennai, Tamil Nadu.

**Refresher Course :** (1) Programme in Life Sciences held from November 13, 2019 to November 26, 2019, HRDC-University of Hyderabad, Hyderabad, Telangana.

(2) Programme in Zoology held from October 26, 2022 to November 08, 2022, HRDC-University of Madras, Chennai, Tamil Nadu.

(3) Programme in Life Sciences (Inter-disciplinary) held from September 18, 2024 to October 01, 2024 UGC-MMTTC, Goa University.

**Awards received :** “**Project Fellowship Award**” received **two times** for a period of **3 years** each from **University Grants Commission, Government of India, New Delhi.**

“**International Travel Grant**” from **Dept. of Biotechnology, Govt. of India, New Delhi** – for research presentation at **Symposium on Dispersal of Marine Organisms** organized by “**Society for Integrative and Comparative Biology**” (SICB) Annual Meeting (**Jan 3-7, 2012**), Charleston, **South Carolina, USA.**

“**IASc-INSa-NASI Summer Research Fellowship, 2013**” from **Indian Science Academies**, for two months to do research at **Department of Animal Sciences, University of Hyderabad, Hyderabad.**

“**International Travel Support**” from **Dept. of Science & Technology, Govt. of India, New Delhi** – for research presentation at **Symposium on Breaking Boundaries for Evolutionary Synthesis: An Interactive, and Integrative Symposium Linking Crustacean and Insect Physiology** organized by “**Society for Integrative and Comparative Biology**” (SICB) Annual Meeting (**Jan 3-7, 2015**), West Palm Beach, **Florida, USA.**

“**Visiting Fellowship-2019**” from **Jawaharlal Nehru Centre for Advanced Scientific Research** for three months to do research at **Behavioural Neurogenetics Laboratory, Jakkur, Bangalore.**

“**Assistance to publication in Tamil – 2020**” from **Tami Nadu State Council for Science & Technology, Chennai, Tamil Nadu.**



**Genes uploaded in NCBI :** 1) *Ariadne merione* ecdysone receptor (EcR) mRNA, partial cds

Accession : **KJ652504**

2) *Delias eucharis* isolate PC:De1 cytochrome c oxidase subunit I (COX1) gene, partial cds; mitochondrial **GenBank: OR483967.1**

3) *Melanitis leda* voucher PC:MI1 cytochrome c oxidase subunit I (COX1) gene, partial cds; mitochondrial **GenBank: OR484869.1**

4) *Pachliopta hector* voucher PC:Ph1 cytochrome c oxidase subunit I (COX1) gene, partial cds; mitochondrial **GenBank: OR484865.1**

5) *Aporandria specularia* isolate PC:As-1 cytochrome c oxidase subunit I (COX1) gene, partial cds; mitochondrial **GenBank: PQ425171.1**

6) *Arhopala centaurus* isolate PC:Ac4 cytochrome c oxidase subunit I (COX1) gene, partial cds; mitochondrial **GenBank: PQ423740.1**

7) *Olios milleti* isolate PC Om1 cytochrome c oxidase subunit I (COX1) gene, partial cds; mitochondrial **GenBank: PQ431970.1**

**Funded Projects :**

<b>Funding Agency</b>	<b>Title of the Project</b>	<b>Year(s)</b>	<b>Amount (Rs)</b>	<b>PI / Co-PI</b>
TNSCST-Student Project Proposal	Identification and preliminary characterisation of natural agglutinin from the hemolymph of larval instars of <i>Pericallia ricini</i> (Fabricius, 1775)	06 Months (2010-11) <b>Code : BS014</b>	<b>6,000</b>	<b>Supervisor &amp; Guide</b>
DBT-Foldscope	To survey the distribution of <i>Vorticella</i> spp. in water bodies around Melaiyur -Tiruvengadu Panchayat, culture it and formulate it as a potential biocontrol agent against the developmental stages of mosquitoes	1 Year (2018-19)	8 lakhs	PI
DBT-Foldscope	To determine the mode of action of green and mycosynthesized nanoparticles in antidevelopmental activity against the dengue vector mosquito, <i>Aedes aegypti</i>	1 Year (2018-19)	8 lakhs	Co-PI
MHRD-STARs : Scheme for Transformational and Advanced Research in Sciences	Mosquito biodiversity and insecticide resistance documentation using phenotypic, barcoding and metabarcoding methods	3 Years (2019-22)	50.926 lakhs	Co-PI

**Membership :**

- 1) American Microscopical Society
- 2) Entomological Society of America
- 3) Entomology Academy of India – LIFE MEMBER
- 4) Indian Science Congress Association – LIFE MEMBER

**Board of Studies Member:**

- 1) Dept. of Zoology, Annamalai University, Annamalai Nagar, Chidambaram, 2022-2025.
- 2) Dept. of Zoology, Nirmala College for Women, Coimbatore, 2015-2016.

- Patents Filed** : (1) **Application No: 2759/CHE/2014 Date of Filing: 05.06.2014**  
A process for essential oil based biopesticidal compound from plant-J against four stored food product insect pests *Corcyra cephalonica*, *Sitophilus granaries*, *Tribolium confusum* and *Trogoderma granesia*.
- Granted** (2) Application No: 201641012573 /CHE/2016 Date of Filing: 11.04.2016 ***Mosquito Repellent from Resurrection plants***  
**Date of Granting: 09.09.2020.**
- Advisory Board Member :** Science & Technology Magazine 2015, K-State Union, KS Manhattan, USA
- Reviewer for** : 1) **Comparative Biochemistry & Physiology**  
2) **Materials Letters**  
3) **Colloids and Surfaces**  
4) **Journal of Photochemistry and Photobiology**  
5) **Experimental and Therapeutic Medicine**  
6) **Vector Biology**  
7) **Nano**  
8) **Mediterranean Journal of Chemistry**  
9) **Journal of Mosquito Research**  
10) **International Journal of Biological Macromolecules**  
11) **Environmental Science & Pollution Research**  
12) **National Journal of Physiology, Pharmacy and Pharmacology**  
13) **Osong Public Health & Research Perspectives**  
14) **Seaweed Research and Utilization Journal**  
15) **Springer Nature – SN Applied Sciences**  
16) **Indian Hydrobiology**
- Judge for** : 1) Poster presentation at Symposium on “**Dispersal of Marine Organisms**” 2012 organized by **Society for Integrative and Comparative Biology, USA.**  
2) Poster presentation at **International Conference on “Frontiers of Biosciences in Sustainable Development” FBSD23** organized by PG & Research Department of Zoology, **Justice Basheer Ahmed Sayeed College for Women, Chennai, India.**
- Chair / co-chair** : 1) International Conference on **Biotechnological Emergence in Science and Technology (ICBEST - 2022)**, December 22 & 23, 2022, organized by Dept. of Biotechnology, SRM Institute of Science and Technology, Ramapuram Campus, Chennai  
2) International Conference on “Recent Biotechnological Innovation in Aquaculture (RBIA)” (Live Aqua 2020) between February 27 & 28, 2020 organized by Department of Zoology, **Bharathiar University, Coimbatore & ICAR-National Bureau of Fish Genetic Resources, Lucknow**

3) 10<sup>th</sup> NABS National Conference on “Recent Trends in Life Sciences: Research, Practices and Application for Sustainable Development” on September 8, 2017 organized by **National Academy of Biological Sciences & Bharathiar University, Coimbatore**

4) “Breaking Boundaries for Evolutionary synthesis: An Interactive, and Integrative Symposium Linking Crustacean and Insect Physiology” on January 6, 2015 organized by **Society for Integrative and Comparative Biology, USA**

5) “6<sup>th</sup> Karpagam University **Annual Research Congress**” on December 6, 2014 organized by Dept. of Zoology, School of Life Sciences, Karpagam University, Coimbatore

6) “5<sup>th</sup> Karpagam University **Annual Research Congress**” on December 8, 2013 organized by Dept. of Zoology, School of Life Sciences, Karpagam University, Coimbatore

7) “**National Conference on Biotechnological Approaches in Aquaculture**” on February 2, 2012 organized by Dept. of Zoology, Bharathiar University, Coimbatore

**Expert Member**

- : 1) “2<sup>nd</sup> Phase of **Time Line presentation**” on August 2, 2014 at School of Life Sciences, Karpagam University, Coimbatore.
- 2) “**Faculty Selection Committee Expert**” on March 14, 2014 at Dept. of Zoology, Nirmala College for Women, Coimbatore.
- 3) “**Doctoral Committee Expert**” (27/8/2012 to 24/6/2016) at Dr. M.G.R. Educational and Research Institute University, Maduravoyal, Chennai.
- 4) “**Doctoral Research Committee**” (December, 2023 onwards) at Dept. of Zoology, Poompuhar College (Autonomous), Melaiyur, Sirkali Taluk, Mayiladuthurai District.

**Research Publications**

- 1) **Nalini, M., P. Mullainadhan & M. Arumugam.** 1994. Characterization of a natural hemagglutinin in the serum of a freshwater crab *Parathelphusa hydrodromus* (Herbst). **Arch. Int. Physiol. Biochim. Biophys., 102:** 259 - 264. (IF: 0.467)
- 2) **Nalini, M. & Y. Kim.** 2006. Parasitism by *Cotesia glomerata* induces immunosuppression of *Pieris rapae*: effects of ovarian protein and polydnavirus. **J. Asia-Pacific Entomol., 9:** 339 - 346. (IF: 1.046)
- 3) **Nalini, M. & Y. Kim.** 2007. A putative protein translation inhibitory factor encoded by *Cotesia plutellae* bracovirus suppresses host hemocyte-spreading behavior. **J. Insect Physiol., 53:** 1283 - 1292. (IF: 2.236)

- 4) **Nalini, M.** & Y. Kim. 2007. Biochemical Characterization of C-type Lectin in the Diamondback Moth, *Plutella xylostella* (Yponomeutidae : Lepidoptera). **J. Asia-Pacific Entomol.**, **10**: 229 - 239. (IF: 1.046)
- 5) **Nalini, M.**, Y. Lee & Y. Kim. 2007. Pyriproxyfen inhibits hemocytic phagocytosis of the beet armyworm, *Spodoptera exigua*. **The Korean Journal of Pesticide Science**, **10**: 124 - 130.
- 6) **Nalini, M.** & Y. Kim. 2007. An evidence for host translation inhibitory factor encoded in a polydnavirus, *Cotesia glomerata* bracovirus, genome and its expression in parasitized cabbage white butterfly, *Pieris rapae*. **J. Asia-Pacific Entomol.**, **10**: 351 – 356. (IF: 1.046)
- 7) Lee, S., **M. Nalini** & Y. Kim. 2008. A viral lectin encoded in *Cotesia plutellae* bracovirus and its immunosuppressive effect on host hemocyte. **Comp. Biochem. Physiol.**, **149A**: 351 - 361. (IF: 2.235)
- 8) Kim, Y., S. Jung & **M. Nalini**. 2008. Antagonistic effect of juvenile hormone on hemocyte-spreading behavior of *Spodoptera exigua* in response to an insect cytokine and its putative membrane action. **J. Insect Physiol.**, **54**: 909 - 915. (IF: 2.236)
- 9) **Nalini, M.**, J.Y. Choi, Y.H. Je, I. Hwang & Y. Kim. 2008. Immuno-evasive property of a polydnaviral product, CpBV-lectin, protects host parasitoid egg from hemocytic encapsulation of *Plutella xylostella* (Lepidoptera: Yponomeutidae). **J. Insect Physiol.**, **54**: 1125 - 1131. (IF: 2.236)
- 10) **Nalini, M.** & Y. Kim. 2009. Transient expression of a polydnaviral gene, CpBV15 $\beta$ , induces immune and developmental alterations of the diamondback moth, *Plutella xylostella*. **J. Invertebr. Pathol.**, **100**: 22 – 28. (IF: 2.064)
- 11) **Nalini, M.**, A.M.A. Ibrahim, I. Hwang & Y. Kim. 2009. Altered actin polymerization of *Plutella xylostella* (L.) in response to ovarian calyx components of an endoparasitoid *Cotesia plutellae* (Kurdjumov). **Physiol. Entomol.**, **34**: 110 - 118. (IF: 1.330)
- 12) Geun Seob, K., **M. Nalini**, Y. Kim & D.-W. Lee. 2009. Octopamine and 5-hydroxytryptamine mediate hemocytic phagocytosis and nodule formation via eicosanoids in the beet armyworm, *Spodoptera exigua*. **Arch. Insect Biochem. Physiol.**, **70**: 162 -176. (IF: 1.361)
- 13) Kim, Y., K. Kim, J. Seo, S. Shrestha, H.H. Kim, **M. Nalini** & Y. Yi. 2009. Identification of an entomopathogenic bacterium, *Serratia* sp. ANU 101 and its hemolytic activity. **J. Microbiol. Biotechnol.**, **19**: 314 -322. (IF: 1.381)
- 14) Surakasi, V.P., **M. Nalini** & Y. Kim. 2011. Host translational control of a polydnavirus, *Cotesia plutellae* bracovirus, by sequestering host eIF4A to prevent formation of a translation initiation complex. **Insect Mol. Biol.**, **20**: 609 - 618. (IF: 3.234)
- 15) Sundaravadivelan, C., & **M. Nalini**. 2012. Biolarvicidal effect of phyto-synthesized silver nanoparticles using *Pedilanthus tithymaloides* (L.) Poit stem extract against the dengue vector *Aedes aegypti* L. (Diptera; Culicidae). **Asian Pacific J. Trop. Biomed.**, **1**: 1-8.

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### **Book Published :**

**உயிரித்தொழில்நுட்பவியல் செயல்முறை பயிற்சி கையேடு, 2020.** Bharathi Puthakkalayam, Chennai. (*Handbook on Basic Biotechnology Experiments*)

### **Research presentations in Conferences/Symposium:**

- Properties of a natural hemagglutinin in the serum of the freshwater crab *Parathelphusa hydrodromus* (Herbst) at **XV Annual Conference of Indian Society for Comparative Animal Physiology**, December 16 - 18, 1993, Department of Studies in Zoology, Gulbarga University, Gulbarga.
- An anticoagulant for studies on immune responses of hemocytes of the marine crab, *Scylla serrata* at **II Congress of Federation of Indian Physiological Societies**, September 15 - 17, 1997, Department of Zoology, Sri Venkateswara University, Tirupati.
- Disease induced changes in the hemolymph immune components of the silkworm *Bombyx mori* at **XX Annual Conference of Indian Society for Comparative Animal Physiology and Symposium on Environment and Human Health**, January 28 - 30, 1999, Department of Environmental Science, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- Separation and characterisation of hemocyte morphotypes from the hemolymph of edible mud crab *Scylla serrata* at **National Symposium on Physiology and Biochemistry of Cultivable Crustaceans**, February 18 & 19, 2002, Department of Zoology, University of Madras, Chennai.
- Cellular immune mechanisms in the hemolymph of the marine mussel *Perna viridis* at **National Seminar on Aquaculture – Prospects & Problems**, March 27 – 29, 2004, Department of Zoology, The Institute of Science, Mumbai.
- Heavy metal induced immunomodulation in the marine mussel, *Perna viridis* at **International Seminar on Ecotechnology for Sustainable Development**, October 4 – 6, 2004, Postgraduate & Research Department of Zoology, The New College, Chennai.
- Effect of recombinant CpBV15 $\beta$  (*Cotesia plutellae* Bracovirus 15 $\beta$ ) on the behaviour of hemocytes from the hemolymph of diamondback moth *Plutella xylostella* and the beet armyworm *Spodoptera exigua* at **Korean Society of Applied Entomology**, May 11 – 13, 2006, Korea.
- Identification and characterization of C-type lectin in *Plutella xylostella*: Host-parasitoid interactions, at **Korean Society of Applied Entomology**, May 17 – 19, 2007, Korea.
- A putative protein translation inhibitory factor encoded in *Cotesia plutellae* bracovirus suppresses host hemocyte-spreading behavior, at **International Congress of Insect Biotechnology & Industry (ICIBI)**, August 19 - 24, 2007, Korea.
- Hemolin: a stage-specific and inducible gene involved in humoral and cellular immune responses in the diamondback moth, *Plutella xylostella*, at **Korean Society of Applied Entomology**, May 8 – 10, 2008, Korea.

- Transient expression of parasitism specific-protein synthesis inhibitor, CpBv15 $\beta$  during the early larval stage of *Plutella xylostella*, at **Korean Society of Applied Entomology**, May 8 – 10, 2008, Korea.
- *In vitro* cell-cell co-operation during cellular immune functions in the edible marine crab *Scylla serrata*, at **Dispersal of Marine Organisms**, January 3 – 7, 2012, South Carolina, U.S.A.
- Knockdown effect of myco-synthesized silver nanoparticles using *Trichoderma harzianum* filtrate against developmental stages of dengue vector, *Aedes aegypti* L., at **Brain Storming Conference on Dengue Scenario in India: Disease burden, surveillance and control**, July 25 & 26, 2013, Centre for Research in Medical Entomology, Indian Council of Medical Research, Madurai.
- Effect of bio-polymer stabilized silver nanoparticles on anti-oxidant enzyme markers on *Anopheles stephensi* mosquito, at **International Conference in Frontiers on Comparative Endocrinology and Neurobiology**, November 25 – 28, 2014, Department of Animal Biology, University of Hyderabad, Hyderabad.
- Heavy metal toxicity in the black clam *Villoritta cyprinoides*, at **CME National Seminar on Advances In Basic And Clinical Immunology**, September 15 & 16, 2015, Department of Zoology, Bharathiar University, Coimbatore.
- Lysozyme-like activity in polyphytophagous insect *Spodoptera litura*, at **National Seminar on Innovative Technologies in Insect Science**, October 14, 2016, Department of Advanced Zoology & Biotechnology, Guru Nanak College, Chennai, in association with **Entomology Academy of India**.
- Evaluation of immune related enzymes and phagocytosis in the hemolymph of polyphytophagous insect *Spodoptera litura*, at **Neo-classical Approaches in Zoological Sciences**, February 16 & 17, 2017, Department of Zoology, University of Madras, Chennai, in association with **Zoological Society, Kolkata**.
- Green synthesis of silver nanoparticles with potential on developmental stages of stored grain pest management, at **International Conference on Biocontrol and Sustainable Insect Pest Management**, January 29 – 31, 2018, Agricultural College and Research Institute, TNAU, Killikulam, Tuticorin.
- Comparative analysis of anti-developmental activity of the biosynthesized silver nanoparticles using *Artemisia nilagirica* and *Euphorbia tithymaloides*, at **National Conference on Frontiers in Nanoscience (NCFNS-2018)**, October 4 & 5, 2018, Department of Physics, Annamalai University, Annamalai Nagar.
- Bio-efficacy of *Cyanodon dactylon* mediated silver nanoparticles (Ag NPs) against developmental stages of *Aedes aegypti*, at **Emerging Trends in Phyto Pesticides and Pheromone Research - PHYTOPHEROCON-2019**, January 3 & 4, 2019, Department of Entomology, Faculty of Agriculture, Annamalai University, Annamalai Nagar.
- Modulation of antioxidant genes of *Anopheles stephensi* on exposure to biopolymer stabilized silver nanoparticles, at **International Conference on Cutting Edge Research in Chemical**



**Sciences and Workshop on Radioactivity – CERICS 2019**, September 19 & 20, 2019, PG & Research Dept. of Chemistry, Poompuhar College, Melaiyur, Sirkazhi Taluk, Tamil Nadu.

- Documentation of mosquito biodiversity in a semi urban location in Chennai using morphological and barcoding methods, at **International Conference on Vectors: Menace and Management (VECMAN 2020)**, January 28 & 29, 2020, Entomology Research Unit, Department of Zoology, St. Xavier's College (Autonomous), Palayamkottai, Tamil Nadu.
- Comparative assessment of water quality during fall season at Ukkadam and Kurichi lakes, Coimbatore, at **International Conference on Recent Trends in Aquaculture (ICRTA – 2022)**, March 25, 2022, Department of Zoology, St. Xavier's College (Autonomous), Palayamkottai, Tamil Nadu.
- DNA barcoding enabled identification of Lepidoptera species from the east coast region: Poompuhar College campus, Mayiladuthurai district, at **National Conference on Retrospect of Biological Sciences (NCRBS – 2023)**, April 3, 2023, Department of Biotechnology, College of Science and Humanities, SRM Institute of Science and Technology, Chennai, Tamil Nadu.
- Impact of *Ananas comosus* silver bionanoparticle on the storage grain moth, *Corcyra cephalonica* (Stainton) at **National Seminar on Health & Hygiene (NSHH '24)**, February 16, 2024, Department of Zoology & Research Centre, Sarah Tucker College (Autonomous), Tirunelveli, Tamil Nadu.

#### **Poster Presentation**

- Role of hemolymph factors during *in vitro* cellular encapsulation of nematodes by the hemocytes of *Galleria mellonella*. 2006, **Kiel, Germany**.
- A possible working hypothesis of host translation inhibitory factor, CpBV15 encoded in the genome of *Cotesia plutellae* bracovirus, at Agriculture & Forestry Science Technology Exposition, September 29, 2006, **Seoul, Korea**.
- A putative host translation inhibitory factor (HTIF) encoded in *Cotesia glomerata* bracovirus: its cloning and expression pattern, at International Symposium on Plant Quarantine and Exotic Pest Management, October 18 & 19, 2007, **YangPyeong, Korea**.
- Humoral and cellular immune components in *Ariadne merione*, a pest of *Ricinus communis*, at National Conference on Emerging Trends in Biological Research (NCEBR'11), February 21 & 22, 2011, **University of Madras, Chennai, India**.
- *Ananas comosus* L. var. silver bionanoparticle: Characterization, physiological impact on *Corcyra cephalonica* (Stainton), at Chennai Nanogathering 2017 National Conference on Nanomaterials and Nanobiotechnology (CNG: NCNN'17), February 7 & 8, 2017, **University of Madras, Chennai, India**.
- Protein levels in the rice moth, *Corcyra cephalonica* on exposure to silver bio nanoparticle synthesized from *Ananas comosus* L. var. queen, at the National Seminar *Nano Agri 2017 – Nanotechnology for Evergreen Revolution*, October 5 & 6, 2017, **Tamil Nadu Agricultural University, Coimbatore, India**.

- Survey of distribution of butterfly species in Mundanthurai forest ecosystem, at National Symposium on Insect Diversity and Conservation-2020, February 13 & 14, 2020, **Loyola College**, Chennai, in collaboration with **ICAR-NBAIR**, Bengaluru, **India**.

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