

## M.ABIRAMI



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### **OBJECTIVE**

Seeking for an opportunity to utilize my knowledge, skills, and abilities in the academics with competitive environment, true professional to put in the acquired knowledge and gain exposure to upcoming technologies while being resourceful, innovative and flexible.

### **ACADEMIC QUALIFICATION**

Degree	School/College	Percentage Scored	Year Of Passing
Ph.D Microbiology	PSG college of Arts & Science, Coimbatore	-	2020
M.Phil Microbiology	PSG college of Arts & Science, Coimbatore	67%	2015
M.Sc Microbiology	D.G.Vaishnav College, Chennai.	72%	2013
B.Sc Microbiology	Thiagarajar Arts And Science College, Madurai.	70%	2011
HSC	S.H.N.G. Hr Sec School, Sivakasi	72.66%	2008
SSLC	S.H.N.G. Hr Sec School, Sivakasi	77.2%	2006

### **PROFESSIONAL EXPERIENCE**

February 2021 – Till date : Assistant Professor,

PG & Research Department of Microbiology,

Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai

### **RESEARCH EXPERIENCE**

**Junior Research Fellow (JRF) in DST – SSTP** on “Enhanced Alternative Bio-treatment of Textile Effluents to CETPs through Nanostructure based comprehensive Treatment system” in PSG College of Arts & Science, Coimbatore, India from 3<sup>rd</sup> December, 2018 – 29<sup>th</sup> January, 2021.

## **SKILL SET**

- Basic Microbiological and Various sterilization techniques
- Antimicrobial Susceptibility Test
- Environmental Sample Analysis – Water and Soil
- Electrospinning techniques
- Handling UV spectrophotometer, Dynamic Light Scattering (Nanoparticle size analyzer), Rotary Vacuum Evaporator, Soxhlet apparatus, Lyophilizer, etc.

## **PATENT FILED**

A process for preparation of chitosan - silver - herbal membrane composite for biomedical application -  
**3986/DEL/2014**

## **Ph.D. PROJECT TITLE**

**Fabrication of Antimicrobial Nanofibrous Scaffolds for Wound Dressing Using Silk Proteins from *Bombyxmori* and its *In vitro* and *In vivo* Validation**

Globally, wound infection becomes a major problem due to the resistance developed by the microorganisms against the antibiotics used for the treatment. Wound healing is a dynamic and complex process which requires suitable environment to promote healing process. Since, traditional dressings fail to provide moist environment to the wound they have been replaced by modern dressings with more advanced formulations. Modern wound dressing have been developed to facilitate the function of the wound rather than just to cover it. The current study is a similar kind of work where silk proteins have been employed to develop wound dressings; the dressings are antimicrobial in nature which enhances wound healing process. The wound dressing consisting of the protein was developed into nanofibers with polymers and the developed film was used to treat the wound. The obtained results showed that these dressings were able to heal the wound and were proven to be biocompatibility, biodegradability and non-toxic in nature.

## **SEMINARS, CONFERENCES AND WORKSHOPS PARTICIPATED**

- Presented a paper in a **seminar** titled Microbial Diversity & Evolution
- Presented a paper in a **seminar** titled Metagenomics Of Microbial Communities
- Participated in the workshop on techniques in Immunology organized by the department of Zoology, Biotechnology & Microbiology, The Standard Fireworks Rajaratnam College for Women, Sivakasi from 24 – 26 February 2011
- Participated and completed the certificate course in **Food Technology** conducted by P.G. Department of Microbiology, D.G. Vaishnav College, Chennai from January to March 2012.

- Participated in poster presentation in ISCA conference on **New Plant Breeding Technique** at Kongunadu Arts and Science College, Coimbatore on 15<sup>th</sup>&16<sup>th</sup> December 2012.
- Participated and completed the certificate course in **Brewing Technology** conducted by P.G. Department of Microbiology, D.G. Vaishnav College, Chennai from January to March 2013.
- Participated in the national conference on **Emerging Novel Avenues and Opportunities in modern Biological Sciences** organized by the Department of Microbiology, M.R. Government Arts College, Mannargudi on March 1 & 2, 2013.
- Participated in one day national level workshop in “**Biosafety, Bioethics and calculations in Biological Sciences**”, organized by PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore on 16<sup>th</sup> December 2013.
- Participated in the workshop on “**Transcending Conventional Boundaries of Research**” organized by the Internal Quality Assurance Cell of PSG College of Arts & Science, Coimbatore on 21<sup>st</sup>& 22<sup>nd</sup> March, 2014.
- Presented a paper in the International conference in **Green Energy and Green Environment** organized by Department of Microbiology & Biochemistry, NadarSaraswathi College of Arts & Science, Theni on 21<sup>st</sup> January, 2015.
- Participated in the **International workshop in Electrospinning and Electrospaying** organized by Centre of Excellence for Medical Textiles, The South India Textile Research Association, Coimbatore on 22<sup>nd</sup> and 23<sup>rd</sup> June, 2015
- Participated in the international workshop on **Biomaterials, Cellular and Molecular Theranostics (IWBCMT)** organized by CBCMT, VIT University, Vellore on 18<sup>th</sup> – 20<sup>th</sup> January, 2017.
- Presented a paper in a national seminar on **Recent Advances in Plant Biology** organized by Department of Botany with specialization in Plant Biotechnology on 13<sup>th</sup>& 14<sup>th</sup> July, 2017.
- Participated in **One day international Seminar on Future perspective On Bioscience Research** organized by PG & Research Department of Biotechnology, Sengunthar Arts & Science College, Tiruchengode on 01.09.2017.
- Participated in the One day Intensive Workshop on Fundamentals of X- Ray Diffraction (WFXRD) held at Department of Nanoscience and Technology, Bharathiar University on 31<sup>st</sup> August, 2017.
- Presented an oral in the Virtual conference for **Marine Natural Products- 2020 (VMNP 2020)** organized by the Centre for Ocean Research, Sathyabama Institute of Science and Technology and Earth Science Technology Cell, Ministry of Earth Sciences, Govt. of India during 17<sup>th</sup> – 21<sup>st</sup> August, 2020.

- Presented an oral in *International Virtual Conference On Biomedical Materials Innovation-2020* (ICBMI-2020) organized by the Department of Nanoscience and Technology, Bharathiar University, Coimbatore and Society for Biomaterials and Artificial Organs, India (SBAOI) on 6<sup>th</sup> – 9<sup>th</sup> December 2020

**PEER REVIEWED JOURNAL PUBLICATIONS (Google scholar Citations – 109, H index -5)**

1. Premasudha, P., Venkataramana, M., **Abirami, M.**, Vanathi, P., Krishna, K., & Rajendran, R. (2015). Biological synthesis and characterization of silver nanoparticles using Ecliptaalba leaf extract and evaluation of its cytotoxic and antimicrobial potential. *Bulletin of Materials Science*, 38(4), 965-973.
2. Rajendran, R., **Abirami, M.**, Prabhavathi, P., Premasudha, P., Kanimozhi, B., & Manikandan, A. (2015). Biological treatment of drinking water by chitosan based nanocomposites. *African journal of biotechnology*, 14(11), 930-936.
3. Rajendran, R., Kanimozhi, B., Prabhavathi, P., Kumar, D. S., Santhanam, P., **Abirami, M.**, ...& Manikandan, A. (2015). A method of central composite design (CCD) for optimization of biodiesel production from *Chlorella vulgaris*. *Journal of Petroleum & Environmental Biotechnology*, 6(3), 1
4. Manikandan, A., Rajendran, R., **Abirami, M.**, & Kongarasi, K. (2016). Antimicrobial Activity And Phytochemical Analysis of *Impatiens Balsamina* Seed (Kaci-T-Tumpai) Collected From Coimbatore District, Tamil Nadu, India. *International Journal of Pharmaceutical Sciences and Research*, 7(12), 5039.
5. Kumar, S. D., Santhanam, P., Prabhavathi, P., Kanimozhi, B., **Abirami, M.**, Park, M. S., & Kim, M. K. (2017). Optimal Conditions for the Treatment of Shrimp Culture Effluent Using Immobilized Marine Microalga *Picochlorum maculatum* (PSDK01). *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, 1-9
6. Premasudha, P., Vanathi, P., **Abirami, M.** (2017). Extraction and Characterization of Chitosan from Crustacean Waste: A Constructive Waste Management Approach. *International Journal of science and Research*, 6 (7), 1194 – 1198.
7. **Abirami, M.**, Shayanthi SS and Rajendran R (2019). Synthesis and characterization of PVA based sericin film for antibacterial wound dressing. *International Journal of science and Research*, 10(2), 875 - 880.
8. Ramaswamy Rajendran, **Mariappan Abirami**, Elango Santhini, Selvaraj Dinesh Kirupha and Ketankumar Vadodaria (2020). Evaluation of the bioactive properties of *Alternanthera sessilis* extract and development of sodium alginate –

*Alternanthera sessilis* membrane for wound management. *Journal of Polymer Engineering*, 40 (6), 507-518.

#### **PUBLICATIONS IN SEMINARS/ CONFERENCE PROCEEDINGS**

1. **M. Abirami**, R. Rajendran, P. Prabhavathi, S. KarthikSundaram, B. Kanimozhi and A. Manikandan. Production, Optimization and Partial Purification of Antimicrobial Compounds by *Streptomyces exfoliate*. Proceedings of the 11th National Conference of Indian Association of Applied Microbiologists, held at PSG College of Arts & Science during 29<sup>th</sup> and 30<sup>th</sup> of November 2013.
2. B. Kanimozhi, R. Rajendran, P. Prabhavathi, S. KarthikSundaram, **M. Abirami** and A. Manikandan. Economical Production of Biopolymer (Poly- -hydroxybutyrate) by *Bacillus* spp at lab Scale Process. Proceedings of the 11th National Conference of Indian Association of Applied Microbiologists, held at PSG College of Arts & Science during 29<sup>th</sup> and 30<sup>th</sup> of November 2013.
3. B. Kanimozhi, R. Rajendran, D. Latha, P. Prabhavathi, S. KarthikSundaram, **M. Abirami** and A. Manikandan “A Study on Phenotypic and Genotypic Identification of Poly Hydroxy Butyrate (PHB) Accumulating *Bacillus* Species (MTCC) And PHB Degradatio” in the 11<sup>th</sup> IAAM National conference on “*Recent Development in Microbiology, Biochemistry and Biotechnology*” held on 29<sup>th</sup> and 30<sup>th</sup> November 2013.
4. **M. Abirami**, R. Rajendran, P. Prabhavathi, S. KarthikSundaram, B. Kanimozhi, K. Hemalatha and A. Manikandan “Antibacterial activity of Chitosan Tripolyphosphate Nanoparticles Loaded with *Cuminum Cyminum*” in National Seminar on *Bioprospecting for Today’s world* at Bharathiar University on January 8<sup>th</sup> 2014.
5. B. Kanimozhi, R. Rajendran, P. Prabhavathi, S. KarthikSundaram, **M. Abirami**, K. Hemalatha and A. Manikandan “A Preliminary Study on Antibacterial activity of Marine Microalge” in National Seminar on *Bioprospecting for Today’s world* at Bharathiar University on January 8<sup>th</sup> 2014.
6. K. Hemalatha, R. Rajendran, A. Manikandan, P. Prabhavathi, S. KarthikSundaram, R. Radhi, B. Kanimozhi and **M. Abirami**. “Antimicrobial activity and Phytochemical analysis of *Clitoria ternatea*” in National Seminar on *Bioprospecting for Today’s world* at Bharathiar University on January 8<sup>th</sup> 2014
7. Manikandan, A., Rajendran, R., Hemalatha, K., Mary sweety, M., Prabhavathi, P., KarthikSundaram, S., **Abirami, M** and Kanimozhi, B. “*In vitro* Antiplasmodial Activity of Ethnobotanically selected plants from Coimbatore Region” in National seminar on Emerging Trends in Biodiversity

conservation and Sustainable Utilization organized by the Department of Botany, Bharathiar University, Coimbatore- 46, Tamil Nadu on 29<sup>th</sup> and 30<sup>th</sup> January 2014

8. K. Hemalatha, R. Rajendran, A. Manikandan, R. Radhai, P. Prabhavathi, V. Rajalakshmi, B. Kanimozhi and **M. Abirami**. “Development of antimicrobial poly cotton fabric finished with herb extract” in *international conference on Current trends in medical textiles research* held at SITRA on 1<sup>st</sup> March, 2014.
9. K. Hemalatha, R. Rajendran, A.Manikandan, P. Prabhavathi, R.Radhai, B. Kanimozhi and **M. Abirami** “In Vitro Evaluation of Antimicrobial Efficiency of Herbal Nanoparticles Loaded Polyester Cotton Fabric” in *international conference on Materials and Characterization Techniques* held at Vellore Institute of Technology on 10<sup>th</sup>- 12<sup>th</sup> March, 2014.
10. **M. Abirami**, R. Rajendran, P. Prabhavathi, S. KarthikSundaram, B. Kanimozhi, K. Hemalatha and A. Manikandan “Formulation Characterization and Evaluation of *Cuminumcyminum* Loaded Chitosan Nanoparticles for antibacterial activity’ in *international conference on Materials and Characterization Techniques* held at Vellore Institute of Technology on 10<sup>th</sup>- 12<sup>th</sup> March, 2014.
11. B. Kanimozhi, R. Rajendran, P. Prabhavathi, S. KarthikSundaram, **M. Abirami**, K. Hemalatha and A. Manikandan “Preparation and Characterization of Chitosan Nanoparticles Containing Microalgae” in *international conference on Materials and Characterization Techniques* held at Vellore Institute of Technology on 10<sup>th</sup>- 12<sup>th</sup> March, 2014.
12. **Abirami. M**,Rajendran.R “Synthesis and characterization of chitosan based nanocomposites” in *Nano India 2015*, Sasthra University, Thanjavur on 29<sup>th</sup>& 30<sup>th</sup>, January 2015.
13. **Abirami. M**,Rajendran.R “Chitosan loaded nanocomposites as a membrane filter techniques to removal of bacteria in drinking water” in *International conference on Nanoscience and Nanotechnology (ICONN 2015)* organized by Department of Physics and Nanotechnology, SRM University on 4<sup>th</sup> – 6<sup>th</sup> February, 2015.
14. **M. Abirami**, R. Rajendran, P. Vanathi, P. Premasudha, A.Manikandan ‘Optimization and Characterization of the Ultrafine Sericin/ PVA Nanofibers by Electrospinning Technique in *International conference on Nanoscience and Nanotechnology (ICONN 2017)* organized by Department of Physics and Nanotechnology, SRM University on 9<sup>th</sup> – 11<sup>th</sup> August, 2017.
15. **M. Abirami**, P.Premasudha, R.Rajendran “Electrospun Nanofibers Scaffold Using Chitosan / Silk Fibroin / PVAfor Healthcare Applications” in *the Virtual Conference on Marine Natural Products – 2020 (VMNP – 2020)* organized by the Centre for Ocean Research, Sathyabama Institute of Science and Technology and Earth Science Technology Cell, Ministry of Earth Sciences, Govt. of India during 17<sup>th</sup> – 21<sup>st</sup> August, 2020.

16. **M. Abirami**, P.Premasudha, R.Rajendran “Formulation of Electrospun Nanofibers Film for Wound Care Application using PVA/ Chitosan/ Silk Sericin” in *International Virtual Conference On Biomedical Materials Innovation-2020 (ICBMI-2020)* organized by the Department of Nanoscience and Technology, Bharathiar University, Coimbatore and Society for Biomaterials and Artificial Organs, India (SBAOI) on 6<sup>th</sup> – 9<sup>th</sup> December, 2020

### **AWARDS**

- **Second rank holder** in M Sc Applied Microbiology, Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai, 2013
- Got **1<sup>st</sup> Prize** in a **poster presentation** on ‘*Biogalaxia 2014*’ on Optimized Chitosan Nanoparticles Loaded with Bioactive Compound for Membrane Filtration Technique organized by the Department of Microbial Biotechnology, Bharathiar University, Coimbatore on 17.10.2014.
- **The Best Researcher Award** in *International Virtual Conference On Biomedical Materials Innovation-2020 (ICBMI-2020)* organized by the Department of Nanoscience and Technology, Bharathiar University, Coimbatore and Society for Biomaterials and Artificial Organs, India (SBAOI) on 6<sup>th</sup> – 9<sup>th</sup> December 2020.

### **ACHIEVEMENTS**

- Got **B** grade in Certificate B & C in **NCC**
- **Winner** in Intra-mural tournaments on **Ball Badminton**

### **TRAINING**

- I got summer training in various aspects of **Quality Control and Quality Assurance** from 8<sup>th</sup> June to 19<sup>th</sup> June 2012 in Stedman pharmaceutical company.
- I got training in **Biochemistry and Microbiology** from 3<sup>rd</sup> June to 7<sup>th</sup> August 2013 in The Bio Clinical Laboratory.
- **Internship and R & D project** on Advanced Antimicrobial Textiles in the Microbiology and Biotechnology Departments at Centre of Excellence for Medical Textiles, SITRA from January – September 2015.

### **PERSONAL TRAITS**

- Ability to work in teams as well as independently.
- Sincere and Self confident.
- Optimistic

## **PERSONAL INFORMATION**

**Father's Name** : K.Mariappan

**Date of Birth** : November 6<sup>th</sup> 1990

**Languages known** : English, Tamil

**Permanent address** : 4/590 A, B, - MannarThirumanaNayakar Nagar,  
Kongalapuram,Sithurajapuram (P.O)  
Sivakasi- 626 189

## **ACADEMIC REFERENCES**

### **Dr.R. Rajendran**

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### **Dr. P. Premasudha**

Assistant Professor

Department of Nanotechnology

Bharathiar University

Coimbatore – 46

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## **DECLARATION**

I hereby declare that the above information furnished by me is true.

Place : Chennai

Date : 24.10.2021



**(M.ABIRAMI)**