

AISWARYA SATHIAN

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SUMMARY

I completed my master's in Nanoscience & Technology, work independently to produce high-quality results and enjoy contributing meaningfully in team environments. I want to work in an esteemed organization where I can utilize and enhance my scientific knowledge as well as my communication, organizational, and motivational skills. I aim to bring forth extensive experience in performing research on product development processes and offering solutions and alterations to improve safety and effectiveness using Nanoscience & Technology.

Research Interest: Wound healing, Agricultural nanotechnology, Polymer nanomaterials, Edible coating, Biomaterials, Nano dispersion, Drug delivery, Nanocomposites, Hybrid nano-systems

EDUCATION

- **Bangalore University**, Karnataka, India - Masters in Nanoscience & Technology, 2018-2020
- **Calicut University**, Kerala, India - Bachelor's in Zoology, 2015-2018

RESEARCH EXPERIENCE

- **Research Intern**, IICUNN, Mahatma Gandhi University; Kottayam; Kerala; India - 2019 (May-June).
- **Project Assistant**, School of Energy Materials, Mahatma Gandhi University; Kottayam; Kerala; India (2020- 2022)
- **Visiting Research Intern**, Sarsen Amanzholov East Kazakhstan University, September 2022 - October 2022, East Kazakhstan
- **Research Scholar**, IICUNN, Mahatma Gandhi University; Kottayam; Kerala; India

RESEARCH SKILLS

Hands on experience :

Synthesis Techniques: Sol Gel Synthesis, Ball Milling, Chemical synthesis, Green Synthesis, CVD & PVD technique.

Coating Techniques: Spin coating technique, Spray coating technique, Dip coating technique.

Characterization Techniques: UV-Vis Spectroscopy, Optical Thin Film Measurement, Atomic Force Microscope (AFM), Four Probe, Micro hardness tester - Vickers Micro Hardness.

Software Tools: Basic Software knowledge of MAT LAB, ORIGIN, MS-office.

INTERPERSONAL SKILLS

- Hardworking and Confident
- Willingness to Learn New Concepts
- Fast Learner
- Believes in Teamwork
- Leadership Quality
- Time Management

PROJECTS

- Novel biocomposite beads for sustained release of nano-fertiliser
- Targeted synergistic delivery of 5-Fluorouracil and curcumin using pegylated human serum albumin nanoparticles for breast cancer therapy
- Synthesis and Characterization of Silver and Copper Nanoparticles and its Immobilization in Clay for the Application of Seed Encapsulation
- Conducted an intensive research on “NANOSTRUCTURED EDIBLE COATINGS FOR FRUITS AND VEGETABLES CONTAINING HYBRID SYSTEM OF POLYMER AND LIPID” as a part of PG Project.
- Conducted an intensive research on “LIPID-POLYMER HYBRID NANOPARTICLES FOR ANTICANCER DRUG DELIVERY” at International and Inter University Centre For Nanoscience And Nanotechnology(IICUNN),Mahatma Gandhi University, Kerala.
- Conducted an intensive research on “INVENTORY OF HAWK MOTHS FROM NEIGHBOURING AREAS OF PEECHI FOREST, THRISSUR” as a part of UG Project.

PUBLICATIONS

- Joseph, Tomy Muringayil, **Aiswarya Sathian**, Aparna Beena Unni, Debarshi Kar Mahapatra, Anoop Kallingal, Joshy K. S, Josef Hapniuk, and Sabu Thomas. "Modulation of Aroma and Flavor Using Plasma Technology." In *Flavors and Fragrances in Food Processing: Preparation and Characterization Methods*, pp. 327-339. American Chemical Society, 2022
- Joseph, Tomy Muringayil, **Aiswarya Sathian**, Aparna Beena Unni, Debarshi Kar Mahapatra, Anoop Kallingal, Joshy K. S, Jozef Hapniuk, and Sabu Thomas. "Applications of Flavors and Fragrances in Meat Products." In *Flavors and Fragrances in Food Processing: Preparation and Characterization Methods*, pp. 405-435. American Chemical Society, 2022.
- **AiswaryaSathian**,Metabolism:WhatitisandWhatFactorsInfluenceIt...?!!, International Journal of Medical & Pharmaceutical Sciences, Vol 12, Issue 01, January 2022 DOI: <http://dx.doi.org/10.31782/IJMPS.2022.12102>
- **Aiswarya Sathian**, K. S. Joshy, and Sabu Thomas, Nano-Innovations in Food Packaging to Preserve Food Flavor and Odor, In Nano-Innovations in Food Packaging, ISBN:9781774639726, Eds. Shiji Mathew and Radhakrishnan E.K, AAP and CRC PRESS.
- K. S. Joshy, Stefan Jackson, **Aiswarya Sathian**, and Hong Chi, Polyionenes as Antimicrobial Agents, in A Holistic and Integrated Approach to Lifestyle Diseases, ISBN: 9781003180609, Eds. Jesiya Susan George, Anne George, Sebastian Mathew, Nandakumar Kalarikkal and Sabu Thomas, AAP and CRC PRESS.
- **Aiswarya Sathian**, Namitha Vijay, K. S. Joshy, Yogesh Bharat Dalvi, Fatima Mraiche, Hydrogel:Smart Materials in Drug Delivery In Hydrogels - From Tradition to Innovative Platforms With Multiple Applications, ISBN:9781803555836,Eds. Prof. Lacramioara Popa, IntechOpen.
- **Aiswarya Sathian**, Arathy P.S, Anjana Krishnan A.S, K. S. Joshy, and Sabu Thomas, Health, Safty and Risk assessments of Nanomaterials in Biomedical field, In Nanostructured Materials for Biomedical Applications, ISBN: 604193, Eds.Raji Vijayamma and Sabu Thomas, Elsevier, (under review)
- Tomy Muringayil Joseph, **AiswaryaSathian**,AkshayManiyeriSuresh,JoshyK S , Józef T. Haponiuk, Sabu Thomas. Handbook of Natural Polymers, Volume 2. Modifications of Starch and its Characterizations, Elsevier (In use by Editor)
- Tomy Muringayil Joseph, **Aiswarya Sathian**, Mohamed S Hasanin, Akshay Maniyeri Suresh, Joshy K S , Józef T. Haponiuk1 and Sabu Thomas. Handbook of Natural Polymers, Volume 2. Chemical modifications of alginate based biopolymers. (In use by Editor) Elsevier

POSTER PRESENTATION

- Participated & presented a paper(Poster) in the National Seminar “Frontier in Chemical Sciences”(FCS-2023) organized by the Department of Chemistry, University of Calicut during 1-3 February, 2023.
- Participated as Poster Author in the ‘Poster- Walkway of Discovery’ at 11th Bengaluru INDIA NANO 2020, on March 2nd & 3rd.

ORAL PRESENTATION

- Participated & presented a paper(Oral) in the National Conference on New Developments in Polymeric Materials (DPM-2023) organized by SPSI Thiruvananthapuram Chapter on March 2-3, 2023 at Thiruvananthapuram, Kerala, India.
- Participated & presented a paper(Oral) in the National Seminar “Frontier in Chemical Sciences”(FCS-2023) organized by the Department of Chemistry, University of Calicut during 1-3 February, 2023.
- Participated & presented a paper(Oral) at the Three days virtual Conference on Nanoscience and Nanotechnology of (Bio) Polymeric systems organised by University of Guelph, Canada and Mahatma Gandhi University, Kerala during 28th - 30th March 2022.
- Participated & presented a paper(Oral) at the International Virtual Conference on Advanced Nanomaterials Applications (VCAN 2020) organised by Centre for Nanotechnology Research (CNR),Vellore Institute of Technology, Vellore, India during 17th – 19th June 2020.

ONLINE COURSES

- I have successfully completed with honors “Introduction to the Biology of Cancer” an online non-credit course authorised by Johns Hopkins University and offered through Coursera.
- I have successfully completed “Drug Discovery” an online non-credit course authorised by University of California San Diego and offered through Coursera.

INDUSTRIAL EXPOSURE & WORKSHOPS

- Attended International Online conference on Nanoscience and Nanotechnology of (Bio) Polymeric systems organised by University of Guelph, Canada and Mahatma Gandhi University, Kerala during 28th - 30th March 2022.
- Attended International Online conference on ‘Processing, Packaging & Coatings for Safe Food’ conducted from 22nd-24th November 2021 by IIUCNN & School of Nanoscience and Nanotechnology, Mahatma Gandhi University, Kottayam under SPARC Scheme of MHRD, Government of India.
- Attended 7th NANO Boston Conference(NWC Boston-2021) , conducted from October 18th to 20th, 2021.
- Attended workshop on “Molecular modeling of materials and biological macromolecules” conducted from 22/09/2020 to 26/09/2020 by NIT Rourkela.
- Attended One Week AICTE sponsored Short Term Training Programme on “Synthesis Characterisation and its Applications of Nanomaterials” during 24th – 29th August 2020.
- Attended Webinar on “India First Leadership Talk”- conducted by MHRD’s Innovation Cell on 2nd May 2020.
- Attended Webinar on “Essentials of Nanotechnology and Nanoelectronics” organised by Saveetha Engineering College, Department of Physics, on 13th June 2020.
- Attended Webinar on “Biochemistry in Forensic Investigation: Explorations through Case studies”- conducted by Mount Carmel College, Autonomous, Bangalore on 12th May 2020.
- Visited Royco Fasteners Auroville, Pondicherry on 19th January 2019- tour on types of carbon material commercialised products.
- Attended Workshop on “Topological Quantum Matter, Entanglement and the Second Quantum Revolution”- conducted by F. Duncan M. Haldane (Princeton University) at ICTS, Bangalore on 11th January 2019
- Attended Workshop on “Falling cats & the quantum hall effect” conducted by Alexander Abanov (Stony Brook University, New York) ,which held at ICTS, Bangalore held on 10th August 2018.
- Visited CMFRI Cochin on 4th January 2018.

AWARDS & ACHIEVEMENTS

- Served as a speaker during IIC Regional meet 2022 held at KMEA Engineering College, Kochi.

- Participated and exhibited innovation at the IIC Regional meet 2022 held at KMEA Engineering College, Kochi.
- Winner of National Innovation Contest 2020 (POC Funding), by Ministry of Education Innovation Cell, India.
- Served as resource person in ExLaC-Extended Learning across the Country, Knowledge Sharing Forum of Students organised by Department of Chemistry, St. Joseph's College for Women, Alapuzha on 16-09- 2020.
- Participated in Regional Mentoring Session for Proof of Concept (PoC) organised as part of Institution's Innovation Council, MHRD's Innovation Cell held at Amrita School of Engineering, Bangalore, Karnataka on 5th August 2019.
- Secured second place in National Online Research Project Presentation Competition organised by the Research committee, St. Joseph's College for women, Alapuzha in association with Kerala Sasthra Sahithya Parishath during 18th – 24th August 2020.
- Secured first place in Photography, in "BIOBLITZ", held on 8th October 2017 at Christ College, Irinjalakuda.
- Participated and won third place in quiz competition "BIOBLITZ", held on 7th February 2018 at Christ College, Irinjalakuda.
- Appointed as Event Coordinator for "DIAMOND JUBILEE EXHIBITION" held on 18th January 2016 at Christ College, Irinjalakuda.