

ATHIRA C M

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[LinkedIn](#)

ABOUT ME

Meticulous researcher with one year of experience in synthesizing, formulating and characterizing polymers and 2D nano-materials like Graphene and Mos2. Expertise in graphene conductive ink formulation for printed electronics applications and fabrication of sensors.

EDUCATION

Master's In Chemistry

[2018 – 2020]

Sree Kerala Varma College, Thrissur, University of Calicut, India

CGPA: 3.15/4

Thesis: Kapok Fiber Reinforced Polystyrene Bio-composite Preparation and Characterization.

Bachelor's In Chemistry

[2015 – 2018]

Sreekrishna College, Guruvayur, University of Calicut, India

CGPA: 5.24/6

EXPERIENCE

Centre for Materials for Electronics Technology, Thrissur, India

[01/05/2022 – Present]

Project Associate, Indian Innovation Centre for Graphene Project

- Chemical synthesis of Graphene by Modified Hummer's Method.
- Formulation of Graphene based conductive ink to fabricate conductive components for a range of demonstrator applications in printed electronics.
- Fabrication of capacitive type humidity sensors using polymer and graphene oxide as sensing material.
- Optimizing the sensor design and fabrication process to improve sensitivity and accuracy of sensor
- Polyurethane based Anti-corrosive coating formulation and characterization

PROJECT

Kapok fiber reinforced polystyrene bio-composite preparation and characterization

[01/04/2019 – 31/05/2019]

- Supervisor- Dr. A. Sujith, Material research laboratory, Department of Chemistry, National Institute of Technology, Calicut
- A literature review was done to develop the framework for the experiment
- Fabrication of kapok fiber-reinforced polystyrene bio composite by varying the filler concentration
- Optimization of Composite and Characterizations through TGA, SEM, Optical microscopy, Contact angle measurement, and Water sorption experiments.

SKILL DEVELOPMENT PROGRAMS

X-ray Crystallography and Structure of solids, CSIR NCL Pune [18/10/2021 –29/10/2021]

- Growing and selection of X-ray quality Crystal
- Mounting and Data collection using single crystal as well as powder XRD
- Crystallographic structure determination, refinement and analysis
- Strong theoretical knowledge in X-ray crystallography

Injection Moulding Theory Parameter Setting and Trouble Shooting, Central Institute of Petrochemical Engineering and Technology, Lakkidi, [21/06/2021 – 25/06/2021]

- Comprehensive understanding of different types of plastic, plastic processing techniques, and application
- Parameter setting and troubleshooting in each plastic processing technique.

Publications

1. "Ultrasonically exfoliated stable Graphene based ink for flexible printed electronics". presented at International Materials Conclave, 8th- 10th March 2023, CMET Pune, India. Athira C. M, Vasantha Kumari K. G, T. Radhika*, A. Seema. Note: I presented the poster.

2. " Surface modified cellulose acetate butyrate-based RH sensor for charge transfer acquisition interfacing measurement system". presented at International Materials Conclave, 8th- 10th March 2023, C-MET Pune, India. Kalesh C. V, Anitta Thomas, Athira C.M, Muralidharan M. N, Seema A*. Note: I was the Co- author in the poster

TECHNICAL SKILLS

Software Skills: APEX 3 | Origin | Olex2 | Mercury 2020.2.0 | Intermediate level in using Gaussian and Gauss view software | C ,C ++ basic| EC-Lab

Instrumentation skills: Rheometry (Oscillatory and Rotational) | Four-Point Probe Measurement | Impedance Analyzer | Contact angle goniometer | Rheology characteristics | X-ray crystallography (XRD) | Sensor Development | screen printing | Vector Network Analyser | Electrochemical work station| Electrospinning| Spray coating

Experimental Skills: Polymer Composites | Ink Formulation | Sensory Analysis | Compound & Salt Analysis | Quantitative determination of inorganic anions and cations by titration and gravimetry | Humidity sensor | Corrosion studies| Peel test| Corrosion studies

LANGUAGE SKILLS

Mother tongue: Malayalam

Other Languages:

English

LISTENING C1 READING C2 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1