Arun Kantholi

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Education

University of Calicut,Kerala, India *Jun 2018 - May 2020*
MSc in Applied Chemistry Campus , Major:Chemistry *3.42/4(absolute)*
MS-Thesis Advisor: Dr. M.T Ramesen

University of Calicut,Kerala, India *Jun 2013 - May 2016*
BSc in Chemistry , Major:Chemistry(Pre-majors: Maths and Physics) *3.32/4(absolute)*
BS-Thesis Advisor: Dr. Jasila Kurayil

Chandan Brothers Higher Secondary School,Kerala, India *April 2011 - May 2013*
Central Board Of Secondary Education,Class 12th *90%*

Publications

Journal Articles

1.Effect of boehmite nanoparticles on structural, optical, thermal, mechanical and electrical properties of poly (methyl methacrylate) nanocomposites for flexible optoelectronic devices, Vyshakh. K **Arun. K** and Rohith Sathian and Furhan AR and Meenakshi Verma and Ramesan. M.T,

Journal : Journal of Thermoplastic Composite Materials(IMP:3.027), Doi : 10.1177/0892705723116741 ,

2.Nanochitosan Reinforced Polyvinyl Alcohol/Cashew Gum Bio-blend Nanocomposites: Promising Materials for Future Frontiers optoelectronic devices, Meera.K., **Arun.K**. Ramesan, M.T,

Journal : Journal of Polymers and the Environment(IMP:5.3), Doi : 10.1007/s10924-023-02909-8 ,

3.High-performance biopolymer blend nanocomposites derived from cashew gum/ polyvinyl alcohol/boehmite for flexible electronic devices, , Meera.K., **Arun.K**. Ramesan.M.T,

Journal : Journal Journal of Applied Polymer Science(IMP:3.057), Doi : 10.1177/08927057231167418,

4.Impact of nano silicon on the structural, thermal and electrical behaviour of polypyrrole nanocomposites for gas sensing applications **Arun. K** , Sangita Sen , Sankar.S Ramesan.M.T,

Journal : Journal of Inorganic and Organometallic Polymers and Materials-Submitted (IMP:3.518,),

Research Experience

Indian Institute Of Science Education And Research Kolkata *2022 -.....*
Junior Research Fellow
1. Exploring Atomic and Molecular Electronic Excitation in Strong Magnetic Fields
2. Computational investigation of Sustainable materials.
Dr. Sangita Sen, Assistant Professor, Department of Chemical Sciences

Central University of Tezpur,Assam *2021 - 2022*
Junior Research Fellow
*1."*Applied research and development for the industrial realization of lignin recycling and conversion to value-added international market products*."*
Dr. Dhanpati Deka , Professor, Department of Energy

University of Calicut,Kerala *2020 - 2021*
Project Student
1.Effect of boehmite nanoparticles on structural, optical, thermal, mechanical and electrical properties of poly (methyl methacrylate) nanocomposites for flexible optoelectronic devices-devices
2. Nanochitosan Reinforced Polyvinyl Alcohol/Cashew Gum Bio-blend Nanocomposite: : Promising Materials for Future Frontiers
3. High-performance biopolymer blend nanocomposites derived from cashew gum/ polyvinyl alcohol/boehmite for flexible electronic devices
Dr. M.T Ramesen, Professor, Department of Chemical Sciences

University of Calicut,Kerala *2019 - 2020*
MS Thesis Research Project
1.”Synthesis, characterization, conductivity, and gas-sensing performance of polymer polypyrrole/silicon nanocomposite”.”
Dr. M.T Ramesen, Professor, Department of Chemical Sciences

University of Calicut,Kerala *2013 - 2016*
BS Thesis Research Project
”1. Analysis and Comparison of Physical, Chemical, and Biological water quality parameters: the main objectives of this project were to analyze the physical, chemical, and biological parameters of water samples from wells, ponds, and rivers and conduct comparative studies by classifying the results into two categories based on the location of samples collection and source of sample collection”
Dr. Jasila Karayil , Assistant Professor, Department of Chemical Sciences

Laboratory/Research Skills

Synthesis of Organic materials like condensation reactions, addition reactions, and substitution reactions,

Synthesis of material by using Hydrothermal, Polymerization,Sol-Gel, Chemical Vapor Deposition Methods

Experience in conducting tensile, compression, and other mechanical tests to determine mechanical properties of materials such as strength, ductility, and hardness.

Experience in biomass valorisation via thermal and chemical Conversion methods like combustion, pyrolysis, gasification, liquefaction, hydrolysis, dehydration, hydrogenation, and esterification.

Experience in Homogeneous, Heterogeneous catalytic synthesis methods

Computational skills: Familiarity with software packages such as MATLAB, Python and Gaussian to analyze materials behaviour

Technical Skills: a) X-ray diffraction (XRD) , Differential scanning calorimetry (DSC) and thermogravimetric analysis (TGA), X-ray photoelectron spectroscopy (XPS) and scanning electron microscopy (SEM), Transmission electron microscopy (TEM) ,Infrared (IR), Raman, and nuclear magnetic resonance (NMR) spectroscopy,Python, ORCA ,Gaussian , London , Materials Studio,Chem draw, EndNote ,Ubuntu Linux, Linux tools,

Soft Skills: Teamwork, Time Management, Communication, Presentation skills.

Academic Achievements

National Level Graduate aptitude test in Engineering in Chemistry conducted by IIT Delhi (90.7 percentile)Mar 2020

Secured IIT JAM (Joint AdmissionTest for M.Sc) Chemistry conducted by IIT Bombay Mar 2017

Relevant Technical Courses

- Solid State | Nanotechnology | Polymer chemistry | Bio-Inorganic chemistry | Co-ordination chemistry Molecular spectroscopy
- Green chemistry | Computational chemistry | Organo metallic chemistry | Catalysis | Electro chemistry Thermodynamic

Courses & Workshops

National Training Course on "prerequisites to Recent Advances in Catalysis " *December 2019*
Five days workshop organised by Central University of Kerala
Dr. A. Sakthivel - Associate Professor Department Of Chemistry

Skill development Training program on Energy Materials - Fundamentals to Device fabrication *June 2021*
Online workshop organised by (CSIR-CECRI)Central Electrochemical Research Institute Karaikudi

American Chemical Society's (ACS) flagship outreach program *September 2018*
National Institute of Technology Calicut

Workshop for college chemistry students and Teachers 2020 *December 2020*
Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore

Sustainability and Interdisciplinarity in Chemical Sciences 2023 *July 2023*
IISER Kolkata

Language

English	Professional proficiency
Malayalam	Native proficiency
Hindi	Professional proficiency
Tamil	Professional proficiency
Assamese	Professional proficiency
Bengali	Professional proficiency