



# RESEARCH HIGHLIGHTS KEY JOURNAL PUBLICATION 2022



## *Congratulation*

to all of the committed faculty  
members of the Amritapuri  
campus of Amrita Vishwa  
Vidyapeetham for their  
unshakable dedication and  
diligence, which have resulted in a  
significant number of journal  
publications in 2022!

**nirf** 7<sup>TH</sup> RANKED  
GOVT. OF INDIA  
2023  
UNIVERSITY IN INDIA



**NAAC** A++  
ACCREDITED

**No.1** **THE** IMPACT  
IN INDIA RANKINGS 2022





*Sincere gratitude is extended to every co-author whose work has significantly improved and made substantial contribution to the outcome of research papers*

*Total Number of Journal Publications in CY 2022: 28*  
*(of which 71% are Q-1 Journals & 29% are Q-2 Journals)*



*Compassion – driven research with a strong societal impact is the dominant theme underlying the University's vision and mission.*



## Publications - Amrita School of Physical Sciences, Amritapuri



**Dr. Saritha A Pillai**  
Dept of Chemistry

**Dr. Saritha A Pillai**, Sethulekshmi A.S., Joseph K., Aprem A.S., Sisupal S.B.

MoS<sub>2</sub> based nanomaterials: Advanced antibacterial agents for future.

Quartile: Q1

Impact Factor: 10.61

**Saritha A Pillai**, Sethulekshmi A. Joseph K. S. A comprehensive review on the recent advancements in natural rubber nanocomposites

Quartile: Q1

Impact Factor: 6.78

**Saritha A Pillai**, Aparna A., Sreehari H., Chandran A., Anjali K.P., Alex A.M., Anuvinda P., Gouthami G.B., Pillai N.P., Parvathy N., Sadanandan S. Ligand-protected nanoclusters and their role in agriculture, sensing and allied applications

Quartile: Q1

Impact Factor: 5.76

**Saritha A Pillai**, Sethulekshmi A.S., Jayan J.S. Joseph K. Recent developments in natural rubber nanocomposites containing graphene derivatives and its hybrids.

Quartile: Q1

Impact Factor: 5.62

Sethulekshmi A.S., Saritha A., Joseph K., Aprem A.S., Sisupal S.B. Shape of the outer stellar warp in the Large Magellanic Cloud disk

Quartile: Q1

Impact Factor: 5.06

**Saritha A Pillai**, Aparna A., Sethulekshmi A. S Joseph K. Recent advances in superhydrophobic epoxy-based nanocomposite coatings and their applications

Quartile: Q1

Impact Factor: 4.81

**Saritha A Pillai**, Venu G., Jayan J.S. Thermal decomposition behaviour and flame retardancy of bio epoxies, their blends and composites: A comprehensive review

Quartile: Q1

Impact Factor: 4.39

**Saritha A Pillai**, Sreehari H., Gopika V., Jayan J.S., Sethulekshmi A.S., A comprehensive review on bio epoxy based IPN: Synthesis, properties and applications.

Quartile: Q1

Impact Factor: 4.19

**Saritha A Pillai**, Sreehari H, Sethulekshmi A.S., Bio Epoxy Coatings: An Emergent Green Anti-corrosive Coating for the Future

Quartile: Q1

Impact Factor: 3.89

**Saritha A Pillai**, Raman A., Sankar A., Abhirami S.D., Anilkumar A. Insights into the Sustainable Development of Lignin-Based Textiles for Functional Applications

Quartile: Q1

Impact Factor: 3.89

**Saritha A Pillai**, Deeraj B.D.S., Jayan J.S., Raman A Joseph K. Polymeric blends and nanocomposites for high performance EMI shield-

ing and microwave absorbing applications.

Quartile: Q2

Impact Factor: 2.67

**Saritha A Pillai**, Rajan R., Pal K., Jayadev D., Jayan J.S., Aathira U., Appukuttan S., de Souza F.G., Joseph K., Kumar S.S. Polymeric Nanoparticles in Hybrid Catalytic Processing and Drug Delivery System

Quartile: Q1

Impact Factor: 2.47

**Saritha A Pillai**, Jayan J.S. Deeraj B.D.S., Joseph K., Modelling of the Rheological Behaviour of Epoxy-Polyethylene Glycol-1000 Blends

Quartile: Q1

Impact Factor: 2.47



**Dr. Sreekala C O**  
Dept of Physics

**Sreekala C O**, Abhilash S., Sumi V.S., Sarika S., Deepa J.P, Rijith S. Development and characterization of Ni-MoP alloy coating for electrocatalytic hydrogen evolution reaction in alkaline media

Quartile: Q1

Impact Factor: 6.88



**Dr. Athira Krishnan**  
Dept of Chemistry

**Athira Krishnan**, Krishnan A., Ajay R., Anakha J., Namboothiri U.S.K. Understanding defect chemistry in TMOS involved electrocatalytic OER; an analysis for advancement.

Quartile: Q1

Impact Factor: 5.85



**Dr. Jyotirmayee Satapathy**  
Dept of Physics

**Jyothirmayi satapathy, Nair S.G, Kumar N.P.** Effect of holmium (Ho) partial substitution in structure and ferroelectric properties of bismuth ferrites (BFO)  
**Quartile: Q1**  
**Impact Factor: 5.29**



**Dr. Sandhya Sadanandan**  
Dept of Chemistry

**Sandhya Sadanandan, RecenV. D., P. J. S., Rajeev N., S. A.L., Chandran A., G. B. G.** Recent Advances in Peptides-Based Stimuli-Responsive Materials for Biomedical and Therapeutic Applications: A Review  
**Quartile: Q1**  
**Impact Factor: 5.19**



**Dr. Beena S**  
Dept of Chemistry



**Dr. Santhy A**  
Dept of Chemistry

**Beena S and Santhy A Antherjanam S, Saraswathyamma B.** Simultaneous electrochemical determination of hydrazine and hydroxylamine on a thiadiazole derivative modified pencil graphite electrode  
**Quartile: Q2**  
**Impact Factor: 4.05**



**Dr. Saritha A Pillai**  
Dept of Chemistry



**Dr. Sandhya Sadananadan**  
Dept of Chemistry

**Sandhya Sadanandan and Saritha A Pillai, Rajeev V.R., Pillai S., Nunzi J.-M., Unni K. N. N.** organic field-effect transistors; pentacene; poly (methyl methacrylate); polymer dielectrics; surface energy  
**Quartile: Q1**  
**Impact Factor: 3.89**



**Dr. Nandakumar Gopakumar**  
Dept of Physics

**Nandakumar Gopakumar, Pai A.R., Azeez N.P., Than-kan B., Gopakumar N., Jaroszewski M., Paoloni C., Kal-arikkal N., Thomas S.** Recent Progress in Electromagnetic Interference Shielding Performance of Porous Polymer Nanocomposites—A Review  
**Quartile: Q1**  
**Impact Factor: 3.54**



**Dr. Akhil Sivan**  
Dept of Chemistry

**Akhil Sivan, Nair A.R., Sunil Kumar Y.C.** Synthesis and in-depth investigation of the photophysical and electrochemical properties of novel pyrazole cored D-A-D molecules  
**Quartile: Q2**  
**Impact Factor: 3.5**  
**Akhil Sivan, Ap Das A.S., Nair A.R., Sreekumar A.,.** Approaches to Obtaining Fluorenes: An Alternate Perspective  
**Quartile: Q2**  
**Impact Factor: 2.24**



**Dr. Sanjay Ram**  
Dept of Physics

**Sanjay K Ram, Investi Kumar M., Askari S.S.A., Das M.K.** Investigation of All-Oxide Thin-Film Solar Cell with p-SnO as Absorber Layer

**Quartile: Q1**

**Impact Factor: 3.22**



**Dr. Naveen V Kulkarni**  
Dept of Chemistry

**Naveen Kulkarni, G R., S N., PM M.,V., Senthurpandi D., Yamijala S.S.R.K.C., Brennessel W.W., Jones W.D.** Synthesis and molecular structure of half-sandwich ruthenium(II) complexes containing pyrazolyl ligands: Solvent induced geometrical change in  $\kappa^2$ -scorpionate supported

**Quartile: Q2**

**Impact Factor: 3.13**

**Naveen Kulkarni, S S., Chandran H., G R., S N., Kumar M., Krishnan M.A., Senthurpandi D., Contractor S.S., Arakera S.B.** First row transition metal complexes of bis (3,5-dimethyl pyrazolyl) methane: Synthesis, molecular structure and antibacterial properties

**Quartile: Q2**

**Impact Factor: 3.13**



**Dr.Sreedha Sambhudevan**  
Dept of Chemistry

**Sreedha Sambhudevan, Chandran G.U., Parappanal A.S., Hema S.** A critical review on cellulose nano structures-based polymer nanocomposites for packaging applications

**Quartile: Q2**

**Impact Factor: 2.6**

**Sreedha Sambhudevan, S H., Nair A** Evaluation of molecular transport mechanism and interfacial interactions in doped ferrite rubber composites

**Quartile: Q2**

**Impact Factor: 0.37**

## Research Grant funded



**Dr. K. M. Sreedhar**  
Dept of Chemistry

### Project Sanctioned

**Project Title:** an archeotechnological innovation orchestrating a sustainable architecture towards functional food contact metallic surfaces for the indigent and ethno-classical art-theatre percussion instruments",

**Funding Agency:** Department of Science and Technology (DST), Government of India, under the Science and Heritage Research Initiative (SHRI) program of DST,

(A) Amount sanctioned - 70 lakhs

(B) Principal Investigators - Dr. K. M. Sreedhar, Department of Chemistry, Amritapuri

(C) Principal Investigators - Dr. V. Sreekanth & Dr. K. M. Sreekanth, Department of Sciences, Ettimadai

(D)co-Principal Investigator. G. Sivasubramanian, Department of Sciences, Ettimadai



**Research Grant/Patent/  
Funded project/Collaborations**

**Placements  
Add detail of students placed**



**Education should spread light within and without, instil awareness and strengthen the deep bond between the student and his nation, the world, his fellow human beings and other creatures, Nature and God.**

**-Amma**