

## Dr. JASILA KARAYIL

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YouTube Channel” jschemie: <https://www.youtube.com/channel/UCb86gj0qv1QqQ5P2Mi2NI8Q>

### Current position

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**Asst. Professor of chemistry**  
**Government Engineering College, Kozhikode**

June 2022–Present

### Academic Backgrounds

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**National Institute of Technology (NIT), Calicut, India**

December 2009-October 2015

*Doctoral Candidate (Ph.D.)*

- Long chain alcohol induced structural transition of cationic micelles
- Ecofriendly micellar medium for organic reactions
- Temperature tunable micellar system

**University of Calicut, Calicut, India**

July 2006-July 2008

*MSc (Chemistry), Malabar Christian College*

**University of Calicut, Calicut, India**

July 2003-July 2006

*BSc (Chemistry), Providence Women's College*

### Area of Research Interest

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- Polymer membrane for water purification
- Intelligent food packaging
- Micellar Catalysis

### Research Experience & Highlights

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- **Centre for Materials for Electronics Technology (C-MET), Thrissur, India** March 2008-July 2008

*M.Sc mini project work under the guidance of Dr. N. Raghu at Ceramic Division, Centre for Materials for Electronics Technology (C-MET), Thrissur from March - July 2008*

- **National institute of technolog , CALICUT(NITC)** October 2009-june2011  
*Project assistant in KSCSTE project under the guidance of Dr. Lisa sreejith at softmaterials lab, Dept of chemistry Thrissur October 2009-june 2011*

### Work Experience

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- Worked as Guest lecturer in Chemistry in Malabar Christian College from November 2008 to July 2009
- Worked as Guest lecturer in Chemistry in St. Joseph's College, Calicut from October 2015 to February 2016
- Working as FIP substitute faculty at Department of Chemistry, Govt. Arts and science college, Calicut from February 2016to September 2018
- Worked as Guest lecturer in Chemistry in Providence Women's College, Calicut from October 2017 to September 2018
- Working as Assistant Professor at Department of Chemistry, Government Chittur College, Palakkad from September 2018 to June 2019
- Working as Assistant Professor at Department of Science, Government Women's Polytechnic College, Kozhikode from September 2018 to June 2022

## Honours and Awards

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- GATE Scholarship
- UGC –JRF NET
- Indira Gandhi One girl Scholarship
- Merit based Scholarship (Providence College)
- Award for the topper in MSc (Malabar Christian College)

## Publications

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- **K. Jasila**, L. Sreejith, *Tuning the Basic hydrolysis of Malachite green in CTAB/KBr/alcohol micelles*, **Government Arts & Science college Research journal**7(2016)
- **K. Jasila**, L. Sreejith, *Effect of Long Chain Alcohol on the Self Assembling Nature of CTAB/KBr/Alcohol System*, **AIP Conference Proceedings** (2011) 811
- **K. Jasila**, L. Sreejith, *Microstructural transition of aqueous CTAB micelles in the presence of long chain alcohols*, **RSC Advances**5 (2011) 12434-12441
- **K. Jasila**, L. Sreejith, *Micellar Growth in Cetylpyridinium Chloride/Alcohol System: Role of Long Chain Alcohol, Electrolyte and Surfactant Head Group*, **Journal of Surfactants and Detergents** 19 (2016) 849–860
- **K. Jasila**, L. Sreejith, *Tuning the solubilization behavior of the CTAB/C<sub>9</sub>OH-C<sub>12</sub>OH micellar system with quaternary ammonium salts*, **Colloid and Polymer Science** 3 (2018)
- **K. Jasila**, L. Sreejith, *Catalytic action of CTAB/ KBr/Long chain alcohol (C<sub>9</sub>OH- C<sub>12</sub>OH) on the Basic Hydrolysis of Crystal Violet*, **Journal of Dispersion Science and Technology**.38 (2016)
- **K. Jasila.**, *A review on the extraction of pineapple, sisal and abaca fibers and their use as reinforcement in polymer matrix*, **Express Polymer Letters**. 14 (2020) 309–335
- **K. Jasila.**, *Adsorption study of anionic dye, Eriochrome Black T from aqueous medium using polyvinyl alcohol/starch/ZSM-5 zeolite membrane*, **Journal of Polymers and the Environment** 28, 2631–2643 (2020) [doi.org/10.1007/s10924-020-01812-w](https://doi.org/10.1007/s10924-020-01812-w)
- **K. Jasila.**, *Removal of anionic dye Congo red from aqueous environment using polyvinyl alcohol/sodium alginate/ZSM-5 zeolite membrane*, **Scientific Reports** 10, 15452 (2020)
- **K. Jasila.**, *Adsorption of methylene blue dye from aqueous solution by a novel PVA/CMC/halloysite nanoclay bio composite: Characterization, kinetics, isotherm and antibacterial properties*, **Journal of Environmental Health Science and Engineering** 18, 1311–1327 (2020), [doi.org/10.1007/s40201-020-00549-x](https://doi.org/10.1007/s40201-020-00549-x)
- **K. Jasila.**, *Fabrication of PVA/agar/modified ZSM-5 zeolite membrane for removal of anionic dye from aqueous solution*, **International Journal of Environmental Science and Technology**, (2020) [10.1007/s13762-020-02998-1](https://doi.org/10.1007/s13762-020-02998-1)
- **K. Jasila.**, *Efficient removal of methyl orange from aqueous solution using mesoporous ZSM-5 zeolite: Synthesis, kinetics and isotherm studies*, **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, 611 (2021) 125852
- **K. Jasila.**, *Removal of methylene blue dye from aqueous solution using PDADMAC modified ZSM-5 zeolite as a novel adsorbent*, **Journal of Polymers and the Environment**, 29, 3185–3198 (2021)
- **K. Jasila.**, *A low cost and eco-friendly membrane from polyvinyl alcohol, chitosan and honey: synthesis, characterization and antibacterial property*, **Journal of Polymer Research**, 28, 82 (2021) [10.1007/s10965-021-02415-2](https://doi.org/10.1007/s10965-021-02415-2)
- **K. Jasila.**, *An efficient removal of malachite green dye from aqueous environment using ZSM-5 zeolite/polyvinyl alcohol/carboxymethyl cellulose/sodium alginate bio composite*, **Journal of Polymers and the Environment**, 29, 2126–2139 (2021).

- **K. Jasila.**, *Release of toxic methylene blue from water by mesoporous silicalite-1: Characterization, kinetics and isotherm studies*, **Applied Water Science**, 10, 110 (2021).
- **K. Jasila.**, *Adsorption of Cationic Dye onto ZSM-5 Zeolite-Based Bio Membrane: Characterizations, Kinetics and Adsorption Isotherm*. **Journal of Polymers and the Environment**, (2022). <https://doi.org/10.1007/s10924-022-02421-5>

## Book Chapters

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- **K. Jasila**, et al.: *Structure and Surface Morphology Techniques for Biopolymers*. In book. Biofibres and Biopolymers for Bio composites - Synthesis, Characterization and Properties, Springer (2020).
- **K. Jasila**, et al.: *Applications of Nanotechnology in Food Packaging*. In book. Food Packaging Advanced Materials, Technologies, and Innovations, Publisher: CRC Press (2020).
- **K. Jasila**, et al.: *Plastics in Fabric, Textile and Clothing*. In Encyclopedia of Materials: Plastics and Polymers doi:10.1016/B978-0-12-820352-1.00056-0, Elsevier (2020).
- **K. Jasila**, et al.: *Investigation on Mechanical Properties of Surface-Treated Natural Fibers-Reinforced Polymer Composites*. In book. Mechanical and Dynamic Properties of Bio composites, Publisher: Wiley-VCH Verlag (2021).
- **K. Jasila**, et al.: *Environmental and toxicological aspects of nanostructures in food packaging*. In book. Nanotechnology-Enhanced Food Packaging, Wiley-VCH Verlag (2021).
- **K. Jasila**, et al.: *Water Absorption and Swelling Behaviour of Wood Plastic Composites*. In book. Wood Polymer Composites: Recent Advancements and Applications, Springer (2021).
- **K. Jasila**, et al.: *Alginate-based bio nanocomposites in wound dressings*. In book. Bio nanocomposites in Tissue Engineering and Regenerative, Elsevier (2021).
- **K. Jasila**, et al.: *Influence of Nanoclay on the Thermal Properties of the Natural Fiber-Based Hybrid Composites*. In book. Natural Fiber-Reinforced Composites: Thermal Properties and Applications, Publisher: Wiley-VCH Verlag (2022).
- **K. Jasila**, et al.: *Morphology of PLA/Cellulose Composites*: In book. Polylactic Acid-Based Nanocellulose and Cellulose Composites., Publisher: Wiley-VCH Verlag (2022).
- **K. Jasila**, et al.: *Water barrier properties of PLA based Nanocellulose and Cellulose Composites*: In book. Polylactic Acid-Based Nanocellulose and Cellulose Composites., Publisher: Wiley-VCH Verlag (2022).
- **K. Jasila**, et al.: *Antimicrobial Properties of Bionanocomposites*, In book. Polymer Based Bio-nanocomposites. Composites Science and Technology. Springer (2022). [https://doi.org/10.1007/978-981-16-8578-1\\_5](https://doi.org/10.1007/978-981-16-8578-1_5)
- **K. Jasila**, et al.: *Recent Advances in Materials Science and Engineering Contributing to the Infection Diseases*; In book: Antimicrobial and Antiviral Materials. Taylor & Francis Group (2022). DOI: 10.1201/9781003143093-2
- **K. Jasila**, et al.: *Influence of Fiber Treatment on the Viscoelastic Properties of Biocomposites*. In book: Vibration and Damping Behaviour of Biocomposites. Taylor & Francis Group (2022). DOI: 10.1201/9781003173625-14
- **K. Jasila**, et al.: *Spectroscopy of elastomer blends and composites*. In book: Elastomer Blends and Composites Principles, Characterization, Advances, and Applications Publisher: Elsevier (2022). 10.1016/B978-0-323-85832-8.00016-X
- **K. Jasila**, et al.: *Cotton fibers, their composites and applications*. In book: Plant Fibers, their Composites, and Applications Publisher: Elsevier (2022). ISBN: 978-0-12-824528-6
- **K. Jasila**, et al.: *Bio Nanocomposite Films in the Food Packaging Applications*: In book: Polymer Based Bio-nanocomposites. Springer, (2022). DOI: 10.1007/978-981-16-8578-1\_14

- **K. Jasila**, et al.: *PLA based bionanocomposites for food packaging applications*: In book: *Bionanocomposites for Food Packaging Applications*: Elsevier (2022). ISBN: 978-0-323-88528-7
- **K. Jasila**, et al.: *Lignin-based bionanocomposites for food packaging applications*: In book: *Bionanocomposites for Food Packaging Applications*: Elsevier (2022). ISBN: 978-0-323-88528-7

### Conferences (Attended)

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- *Attended U.G.C Sponsored national seminar on Bioinorganic chemistry at Providence Women's college Aug 2006*
- *Attended Regional seminar on Current scenario of Nanotechnology at M.A.M.O. College Feb 2007*
- *Attended National seminar Environmental ethics issues & possible solution at M.C.C, March 2007*
- *Attended Kerala Environmental Congress organized by the Centre for Environment and Development at Kozhikode, Dec 2009*
- *Attended International Webinar on 'Nanotechnology against COVID-19' organized by Sree Narayana College for Women, Kollam, Kerala (July 2020)*

### Conferences (Presented)

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- *Presented in interdepartmental presentation competition on the topic "Monsoon Magic" on 2008*
- *Presented Paper entitled as "Fascinating Behavior of CTAB/KBr/Alcohol system- A Viscometric Investigation" in Swadeshi Science Congress (Nov 2010)*
- *Presented the paper titled "Liquid Crystal Formation from CTAB/KBR/Alcohol system" for oral presentation in International conference on Materials for Future ICMF (Feb 2011)*
- *Presented poster entitled "Effect of long chain alcohol on the micellar growth of CTAB/KBr/Alcohol systems" in International conference on OPTIC (2011)*
- *Presented Paper entitled as "Self-Assembling of CPC/KBr Micelles in Long Chain Alcohol and its Catalytic Action on Basic Hydrolysis of Crystal Violet" in International conference on Materials for Future ICMF (Nov 2013)*
- *Presented poster entitled "Recurring of Phase Transition in CTAB/Quaternary salts/Alcohol system and role of quaternary salts as solubilization site modifiers in cationic micellar solutions" on Kerala Science Congress (Jan 2014)*
- *Presented poster entitled "Tuning the basic hydrolysis of Malachite green in CTAB/KBr/Alcohol system" in National conference on Green strategies at St Joseph College, Calicut (2016)*
- *Presented poster entitled "Nonanol tuned structural transition in CTAB micelles and their Catalytic Action on the Basic Hydrolysis of Crystal Violet" in national conference 'FRONTIERS IN CHEMICAL SCIENCE' at Calicut university (2019)*
- *Presented paper entitled "Kinetic Study of Basic Hydrolysis of Malachite Green in CPC/KBr/nonanol micellar system" in National Seminar on Recent Trends in Materials Science (NSRTMS) at Govt. College, Chittur (2019)*

### Equipment Handled

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- Dynamic Light Scattering - Particle Size Analyser; UV-VIS Spectroscopy, FT-IR Spectroscopy, Universal Testing Machine, TGA/DSC, Contact angle, Optical Microscopy, Electrospinning, Rheometer, Viscometer, Conductivity meter, pH meter

### Computer skills

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- MS office, Operating system Windows 7, 8, Origin, Chem. Draw

## Project Guided

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Co-guided 1 MSc Project

Guided 4 UG Project

## References

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