



# Dr. Ananthan D Thampi

Assistant Professor, Mechanical Engineering

## Education Summary

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- Ph.D. in Tribology (2023 pass-out) from College of Engineering Trivandrum; KTU; Kerala.
- M.Tech in Manufacturing and Automation (2018 pass-out) from College of Engineering Trivandrum; KTU; Kerala.
- B. Tech in Mechanical Engineering (2014 pass-out) from Marian Engineering College, Thiruvananthapuram; University of Kerala.

## Employment History

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- Assistant Professor in the Department of Mechanical Engineering, Muslim Association College of Engineering, Trivandrum from 06/08/2018 to 31/12/2018.
- Project Associate (KSEB consultancy work: Feasibility study of blending Diesel with Methanol / Biodiesel) in the Department of Mechanical Engineering, College of Engineering Trivandrum from 02/11/2022 to 16/03/2023.
- Assistant Professor in the Department of Mechanical Engineering, St. Thomas Institute for Science and Technology, Trivandrum from 17/03/2023 to 09/02/2024.
- Project Lead (MeitY project titled "Capacity Building for Human Resource Development in Unmanned Aircraft System (Drone and related Technology)) in the Department of Mechanical Engineering, NIT Calicut from 12/02/2024 to 31/03/2026.

## Areas of Interest

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Tribology, Bio-lubricant, Bio-fuel, Sustainable engineering, Waste to value-added product, Drone Technology, Manufacturing

## Journal/Papers Published

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- Maneesh T, Anandhan UG, Baiju Sasidharan, S Rani, Ananthan D Thampi, Rakesh P, "Development and Performance Evaluation of Bio-Cutting Fluid from Chemically modified Palm oil with Cassia fistula Oil as an additive", Journal of the American Oil Chemists' Society (JAOCS) - Wiley (2026).
- Gokul Biju, Prakash Marimuthu, Ananthan D Thampi, Baiju Sasidharan, Rani S, "Property evaluation of multi-staged chemically modified used coconut oil for biolubricant applications", Biomass Conversion and Biorefinery - Springer (2025).
- Ajmal N, Visakh Mohanan, Rani Pavithran, S Rani, Ananthan D Thampi, E Sneha, "Lubricant property evaluation of electrical conductive rice bran oil-based lubricant with dioctyl ammonium oleate ionic liquid as an additive", Journal of the American Oil Chemists' Society (JAOCS) - Wiley (2025).
- Pranav P, Rani S, Ananthan D Thampi, Sneha Edla, Adithyan KS, Sabarinath S, "Epoxidation of Calophyllum Inophyllum oil fatty acid methyl esters as a potential base-stock for green cutting fluid", Environment, Development and Sustainability (2024).
- Sumanlal M. S., Sivasubramaniyan N. S., Joy Varghese V. M., Shafeek M., Ananthan D. Thampi, "Estimation of heat source model parameters for partial penetration of TIG welding using numerical optimization method", Welding International - Taylor & Francis (2023).
- Ananthan D Thampi, Sneha Edla, S Rani, Baiju Sasidharan, KS Adithyan, "Development of bio cutting fluid using multistage chemically modified rice bran oil with clove oil as a bio-additive", Biomass Conversion and Biorefinery (2023)-Springer.
- Vivek V Kamal, Nakul Pradeep, Rani S, Muhammed Arif, Ananthan D Tharnpi, Sneha E, "Tribological property and oxidation stability evaluation of rice bran oil with silicon dioxide nanoparticles and spicy aroma based-herbal oils as additives", Institute of Mechanical Engineers Part J: Journal of Engineering Tribology-Sage (2023).
- Sourav Sudhakaran, Maria Terese, Yedhu Mohan, Ananthan D. Thampi, S. Rani, "Influence of various parameters on the cooling performance of battery thermal management systems based on phase change materials", Applied Thermal Engineering 222 - Elsevier (2023).
- Sneha Edla, Ananthan D. Thampi, Pranav Prasannakumar, S. Rani, "Evaluation of physicochemical, tribological and oxidative stability properties of chemically modified rice bran and karanja oils as viable lubricant base stocks for industrial applications", Tribology International - Elsevier (2022).

- Pranav Prasannakumar, Sneha Edla, Ananthan D Thampi, Muhammed Arif, Rani Santhakumari, "A comparative study on the lubricant properties of chemically modified Calophyllum inophyllum oils for bio-lubricant applications", *Journal of Cleaner Production - Elsevier* (2022).
- Sneha Edla, Ananthan D Thampi, Abhijith BK Pillai, Vishnu V Sivan, M Muhammed Arif, Baiju Sasidharan, Rani S, "Formulation of rice bran oil-based green cutting fluid with holy basil oil and clove as bio-additives", *Biomass Conversion and Biorefinery - Springer* (2022).
- Abhijith KS, Ananthan D Thampi, Sneha E, Muhammed Arif, Rani S, "Effect of Bovine Serum Albumin on the Lubricant Properties of Rice Bran Oil: A Biomimetic Approach", *Sadhana- Springer* (2021).
- Sneha E, GVS Karthik, Ananthan D Thampi, Abhijith Krishna, Amjesh Revikurnar, Rani S, "Experimental and quantum chemical investigation of bio-fuels/lubricants for its oxidative stability", *Journal of Molecular Liquids - Elsevier* (2021).
- Ananthan D Thampi, Deepkant A, Gokul Biju, Baiju Sasidharan, Rani S, "Influence of grease formulation parameters on the tribological property of rice bran oil-based lubricating grease", *Journal of the American Oil Chemists' Society (IAOCS)- Wiley* (2021).
- Ananthan D Thampi, Gokul Biju, Deepkant A, Baiju Sasidharan, Rani S, "Formulation and Tribological property evaluation of rice bran oil-based lubricating grease with sebacic acid as a complexing agent", *Biomass Conversion and Biorefinery - Springer* (2021).
- E Sneha, A Revikumar, Jaykumar Y. Singh, Ananthan D Thampi, S Rani, "Viscosity prediction of Pongamia pinnata (Karanja) Oil by molecular dynamics simulation using GAFF and OPLS force field", *Journal of Molecular Graphics and Modelling-Elsevier* (2020).
- Ananthan D Thampi, Abhishek R John, M. Muhammed Arif, S Rani, "Chemical Modification and Tribological Evaluation of Pure Rice Bran Oil as Base Stocks for Biodegradable Lubricants", *Journal of The Institution of Engineers (India) Series E - Springer* (2020).
- Ananthan D Thampi, Abhishek R John, M. Muhammed Arif, S Rani, "Evaluation of the tribological properties and oxidative stability of epoxidized and ring-opened products of pure rice bran oil", *Institute of Mechanical Engineers Part J: Journal of Engineering Tribology - Sage* (2020).
- Ananthan D Thampi, Suresh Kumar V.B, Lislin Luka, "Fabrication and Experimental analysis of Micro Electro Discharge Machining", *International Journal of Research in Advent Technology*, Vol.7, No.4, April 2019.
- Ananthan D Thampi, Sureshkumar V.B, Lisilin Luka, "Proposed Automatic Spark Gap Adjustment System for a Tabletop Micro EDM", *International Journal of Engineering Research and Applications*, ISSN: 2248-9622, Vol. 8, Issue 6 (Part -I) June 2018, pp 37-42.

- Ananthan D Thampi, Ajith C Menon, Cedric Benedict, Amal Sreenivas, "Fabrication and analysis of Portable Desalination system", International Journal of Advanced Research in Engineering and Technology, Volume 5, Issue 5, May (2014) pp.125-140.

## Conference Papers Published

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- Ajmal, T. Maneesh, S. Rani, Visakh Mohanan, Ananthan D. Thampi, "Tribological property evaluation, optimization and performance of waste sunflower oil-based green cutting fluid with silicon dioxide nanoparticles as additive", Third International Conference on Sustainable materials, manufacturing and renewable technologies 2023 (I-Smart 2023) organized by Federal Institute of Science and Technology (FISAT) in association with King Mongkut's University of Technology North Bangkok (KMUTNB), Bangkok Campus, Thailand, and College of Engineering, Universiti Teknologi MARA (UiTM), Malaysia.
- Participated and received first prize for presenting the poster titled "Biofuels / Biolubricant" in the Science Exhibition on Bioenergy, ICAR-Central Tuber Crops Research Institute on 28 February 2023.
- Amal SB, Vaibhov D, Anand AR, Muhammed Haris S, Ananthan D Thampi, Viswananth SP, Sneha Edla, "Feasibility of developing biodiesel from the blends of waste cooking oil and non-edible oil", Third International Conference on Sustainable materials, manufacturing and renewable technologies 2023 (I-Smart 2023) organized by Federal Institute of Science and Technology (FISAT) in association with King Mongkut's University of Technology North Bangkok (KMUTNB), Bangkok Campus, Thailand, and College of Engineering, Universiti Teknologi MARA (UiTM), Malaysia.
- Visakh Mohanan, E Sneha, Rani S, Ananthan D Thampi, Maneesh T, "Evaluation of the Rheological, Thermal, and Corrosion Stability of Used Lubricating Oil Recycled with Acetic Acid and Anacadium Occidentale Activated Charcoal", 7th Biennial International Conference on Emerging Trends in Engineering, Science & Technology (ICETEST 2023), Govt. Engineering College, Thrissur, Kerala. The paper is published in the SSR e-journal - Elsevier (2023).
- Stino John, Sreyas K, Yedhu Mohan, Ananthan D Thampi, S Rani, "Effect of PCM thickness and nano-additive on the cooling performance of Stearic Acid-based Battery Thermal Management", Second Global Conference on Recent Advances in Sustainable Materials (GC-RASM 2022) organized by A.J. Institute of Engineering & Technology, Karnataka, India, during 28 - 29 July 2022. The paper is published in Materials Today: Proceedings - Elsevier (2023).

- Adithyan KS, Sneha Edla, Ananthan D Thampi, Akhil Kumar S, Baiju Sasidharan, M Muhammed Arif and Rani S, "Experimental investigation on the effects of clove oil as an anti-oxidant additive on the lubricant properties of transesterified rice bran oil", 2nd International Conference On Sustainable materials, Manufacturing and Renewable Technologies 2022 held during 25th May to 27th May 2022, Federal Institute of Science and Technology (FISAT) and King Mongkut's University of Technology North Bangkok (KMUTNB), Bangkok Campus, Thailand. The paper is published in Materials Today: Proceedings - Elsevier (2022).
- Akhil Kumar S, Ananthan D Thampi, Sneha Edla, Adithyan KS, M Muhammed Arif, and Rani S, "Evaluation of the rheological, thermal, corrosion, and oxidation stability of trans-esterified rice bran oil using butanol with bovine serum albumin as a bio-additive", 2nd International Conference On Sustainable materials, Manufacturing and Renewable Technologies 2022 held during 25th May to 27th May 2022, Federal Institute of Science and Technology (FISAT) and King Mongkut's University of Technology North Bangkok (KMUTNB), Bangkok Campus, Thailand. The paper is published in Materials Today: Proceedings - Elsevier (2022).
- Sneha Edla, Ananthan D Thampi, Pranav Prasannakumar, Rani S, "A comparative study on the lubricant properties of epoxidized and transesterified vegetable oils", 2nd Virtual International Tribology Research Symposium (ITRS 2021) held during 8th to 10th December 2021, SRM Institute of Science and Technology.
- Ananthan D Thampi, Pranav Prasannakumar, Sneha Edla, Adithyan K S, Akhil Kumar S, Baiju Sasidharan, Rani S, "Evaluation of the Physico-chemical, Tribological, and Oxidation Stability of Multistage Chemically Modified Calophyllum Inophyllum Oil", 2nd Virtual International Tribology Research Symposium (ITRS 2021) held during 8th to 10th December 2021, SRM Institute of Science and Technology.
- Vivek V Kamal, Sneha Edla, Ananthan D Thampi, Nakul Pradeep, Muhammed Arif, Rani S, "A Preliminary Study on the Tribological Properties and Oxidation Stability of Rice Bran Oil with Black Pepper Oil as a Bio-Additive", 2nd Virtual International Tribology Research Symposium (ITRS 2021) held during 8th to 10th December 2021, SRM Institute of Science and Technology.
- Pranav P, Sneha E, Ananthan D Thampi, Rani S, "Evaluation of the tribological and rheological properties of various vegetable oils as the base oil for bio-lubricant: A preliminary study", First International Conference on Emerging Trends in Engineering - Yukthi 2021, Govt. Engineering College, Kozhikode, Kerala. The paper is published in the SSRN e-journal - Elsevier (2021).
- Maria Terese, Sourav Sudhakaran, Yedhu Mohan, Ananthan D Thampi, Rani S, "Battery Thermal Management Systems based on Phase Changing Materials for Electric Vehicle - A Review", First International Conference on Emerging Trends



in Engineering - Yukthi 2021, Govt. Engineering College, Kozhikode, Kerala. The paper is published in the SSRN e-journal - Elsevier (2021).

- Ananthan D Thampi, M.A. Prasanth, A.P. Anandu, E. Sneha, Baiju Sasidharan, S. Rani, "The effect of nanoparticle additives on the tribological properties of various lubricating oils - Review", Materials Today: Proceedings- Elsevier (2021).
- Pranav P, Sneha E, Ananthan D Thampi, Rani S, "Effect of nanoparticles on the tribological properties of sustainable vegetable oil-based lubricants", National conference on innovations in renewable energy technology - VIDYUTH 2021, Marian Engineering College, Trivandrum, Kerala.
- Ananthan D Thampi, E Sneha, Baiju Sasidharan, S Rani, "Effect of SiC nanoparticle on the tribological properties of Rice bran oil-based lubricant", ICETEST 2020, Govt. Engineering College, Thrissur, Kerala. The paper is published in IOP Conf. Series: Materials Science and Engineering 1114 (2021) 012054.
- Ananthan D Thampi, Rani S, "Formulation and Tribological Evaluation of vegetable oil-based grease", TRIBOINDIA 2020, SRM Institute of Science and Technology & Tribology Society of India.
- Jithin Prakash, Sneha Edla, Rani S, Muhammed Arif M, Ananthan D Thampi, "Feasibility study of epoxidized rice bran oil as cutting fluid", 4th International Conference on Materials Mechanics and Management 2020, College of Engineering Trivandrum. pp. 154-159, ISBN 978-93-89105- 41-4.
- Gokul Biju, Ananthan D Thampi, Rani S, Deepkant A, "Fabrication and Performance analysis of a grease formulation setup", 4th International Conference on Materials Mechanics and Management 2020, College of Engineering Trivandrum, pp. 160-164, ISBN 978-93-89105-41-4.
- Deepkant A, Baiju Sasidharan, Rani S, Ananthan D Thampi, Gokul Biju, "Feasibility study on the formulation of rice bran oil-based bio-grease", 4th International Conference on Materials Mechanics and Management 2020, College of Engineering Trivandrum, pp. 165-169, ISBN 978- 93-89105-41-4.
- Ananthan D Thampi, Abhishek R John, Rani S, Muhammed Arif M, "Evaluation of the Tribological Properties and Oxidative Stability of Epoxidized and Ring Opened products of pure Rice Bran Oil", IndiaTrib, 2019 at IISc Bangalore.
- Participated and presented a poster titled "An Experimental Study on Electro Discharge Machining of Aluminum and A356 Alloy under different Dielectric Medium" in SAMHITA 2018, conducted at the College of Engineering Trivandrum on 30th July 2018.
- Participated in the 18<sup>th</sup> National Conference on Technological Trends 2017 organized by the College of Engineering Trivandrum from 21 to 22 July 2017.

## Achievements

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- GATE 2015 – qualified.
- Associate Member and Chartered Engineer - IE(I).
- Life Member – Tribology Society of India.
- Published a book chapter titled ‘Potential use of Vegetable oil-based Nano-fluids for Machining Process’ in the book titled ‘Tribology in Sustainable Manufacturing (1<sup>st</sup> Edition)’ – Dec 2023 (Publisher: CRC Press, Routledge Taylor & Francis Group).
- Patent Title: A GREEN CUTTING FLUID EMULSION COMPOSITION (Patent No: 396458, Application No: 201941031466 dated 03/08/2019, India) - Status: Granted on 09/05/2022.