



**INTERNATIONAL SYMPOSIUM  
ON**

# **LIGHTWEIGHT AND SUSTAINABLE POLYMERIC MATERIALS (LSPM'23)**

**February 17, 2023**

**King Mongkut's University of Technology North Bangkok  
(KMUTNB), Bangkok, Thailand.**

**<https://lspm.tggs.kmutnb.ac.th>**

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## **About KMUTNB**

KMUTNB was jointly founded in 1959 by the Royal Thai Government and the Federal Republic of Germany. KMUTNB was established as the "Thai-German Technical School". In 1964, the school was upgraded to "Thai-German Technical College". In 1971, the Thai-German Technical College joined with Thonburi Technical College and Telecommunication College Nonthaburi to become the North Bangkok campus of King Mongkut's Institute of Technology.

## **About The Symposium**

International Symposium on Lightweight and Sustainable Polymeric Materials (LSPM'23) is going to be held in Bangkok, Thailand on 17<sup>th</sup> February 2023. The polymer industrial society built on fossil resources has brought us success. Because of recent developments in polymer science and technology, we now have access to high-tech, useful polymeric materials as well. Unfortunately, it has a profoundly damaging effect on the planet's ecosystem and its supply is rapidly diminishing because it is based on nonrenewable minerals. For this reason, it is crucial to building a future-oriented and environmentally friendly civilization that relies heavily on lightweight and sustainable polymeric materials. Global material science initiatives must address multiple dimensions of sustainability, such as lowering production costs and improving material performance while simultaneously creating safer, more eco-friendly options with competitive performance. The production of lightweight, low-cost, and low-energy-consuming materials makes polymeric materials ideal for this use. Moreover, polymeric materials constitute a significant advancement in cutting-edge fields like nanotechnology, which is today acknowledged as one of the most promising areas for technological progress in the 21<sup>st</sup> century. It features the different material science orders to develop innovative methodologies with an advancement execution in improving the sustainability of various advanced materials.

This symposium will bring together experts in the fields of polymer chemistry, physics, and materials science from both academia and industry to share and discuss the latest findings from their research into cutting-edge and environmentally friendly polymers. At the end of the symposia, attendees should have gained fresh insights and a broader perspective with which to forge stronger ties between academia and the industrial world. There will be keynote addresses, plenary discussions, and oral presentations at LSPM'23. The format and scheduling of the event will provide for ample time to meet and interact with peers from all around the world.

## **About STRI**

Science and Technology Research Institute Acts as a research coordinating center both within and outside the university. There is a mission of support. Promote and disseminate university research, including intellectual property management. commercial use of research results.

Therefore, in order to provide flexibility in management and support the expansion of research of the University, on November 21, 2007, the University Council resolved to establish a “Science and Technology Research Office” to be responsible for the administration and determination of research policy as well as being a center for research activities of the university.

### **About NCR Lab**

Natural Composite Research (NCR) Research Group Lab was established under the Department of Materials and Production Engineering, The Sirindhorn International Thai-German Graduate School of Engineering, King Mongkut’s University of Technology North Bangkok, Thailand.

The more profound environmental concern due to pollution caused by synthetic materials has increased the need for research on eco-friendly materials to replace synthetic ones in all possible applications. This NCR lab’s prime focus is on applied research related to developing and characterizing natural fibers and their composites, polymeric materials, polymer blends, rubber technology, and bio-based materials for lightweight structures and engineering applications. The NCR is equipped with state-of-the-art polymer processing instruments like single/twin screw extruders, filament winders, internal mixers, grinders, ball mills, blenders, automated compression molding, injection molding, vacuum infusion, autoclave, and 3D printers (FDM, Laser, and Resin). The lab members are actively involved in developing sustainable, eco-friendly products by efficiently utilizing natural resources that can lower the harmful impact on the environment and thus ensures a green environment.

Apart from composite development, the lab has testing facilities to study the developed composite's mechanical, thermal, visco-elastic, and durability behavior. Lab members of NCR work on exploring possible solutions for creating sustainable, eco-friendly materials for industries to minimize and replace synthetic materials; based on this research, many industrial, and academic collaboration projects are being currently done. NCR also focuses on component development, especially for automotive and railway applications, by effectively using natural fibers obtained from plants. NCR works on emerging technologies like 3D printing thermoplastic and thermosets using natural-based materials for contributing technologies to the scientific society. Additionally, the NCR is conducting research to analyze real-time environmental impacts like UV, moisture, varied pH, and temperatures to study the behavior of developed materials. The mission of the NCR Laboratory is to advance knowledge in the areas of sustainable composite materials design, analysis, and fabrication, as well as structural and semi-structural design and development. The laboratory is focused to work with other groups on collaborative projects and extend support for technology transfers to private and public sectors.

**Honorary Chair** : Prof. Dr.-Ing. habil. Suchart Siengchin  
**Chairman** : Assoc. Prof. Dr. Sanjay Mavinkere Rangappa  
**Vice Chairman** : Dr. Indran Suyambulingam  
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**Secretaries** : Asst. Prof. Dr. Jiratti Tengusthiwat and Dr. Krittirash Yorseng

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Dr. Rajeshkumar Lakshminarasimhan  
Dr. Divya Divakaran  
Dr. Vijay Raghunathan  
Dr. Sathish Kumar Palaniappan  
Dr. Vinod Ayyappan

### **Organizing Committee**

Mr. Praveenkumara Jagadeesh  
Mr. Arulmozhivarman Joseph Chandran  
Mr. Resego Reginald Phiri

### **Keynote Speakers**

1. Dr. Hom Dhakal, University of Portsmouth, UK.
2. Dr. Mohammad Jawaaid, Universiti Putra Malaysia, Malaysia
3. Dr. Sabu Thomas, Mahatma Gandhi University, India.
4. Dr. Togay Ozbakkaloglu, Texas State University, USA.
5. Dr. Vincenzo Fiore, University of Palermo, Italy

### **Invited Speakers**

1. Dr. Baijayantimala Garnaik, CSIR National Chemical laboratory, India.
2. Dr. Marta Maria Moure Cuadrado, Rey Juan Carlos University, Spain.
3. Dr. Philip Oladijo, Botswana International University of Science and Technology, Botswana.

**Advisory Committee**

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Dr. Rajasekar Rathanasamy	Kongu Engineering College	India
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Dr. Sarani Zakaria	Universiti Kebangsaan Malaysia	Malaysia
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Dr. Sathishkumar T.P	Kongu Engineering College	India
Dr. Seeram Ramakrishna	National University of Singapore	Singapore
Dr. Seno Jose	Government College kottayam	India
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Dr. Steffen Fischer	Technical University Dresden	Germany
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\* List of Names is in alphabetical order.

**Scientific Committee**

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Dr. Abhilash SS	Sree Chitra Thirunal College of Engineering	India
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Dr. Nagarajan KJ	Thiagarajar College of Engineering, Madurai	India
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Dr. Rebeca Martinez Garcia	Universidad de Leon	Spain
Dr. Sabarish Radoor	Jeonbuk National University	South Korea



Dr. Saikrishnan G	Rajalakshmi Institute of Technology, Chennai	India
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Dr. Yashwant Munde	MKSSS's Cummins College of Engineering for Women	India

\* List of Names is in alphabetical order.

## Session Topics and Organizers Details

<i>Topics</i>	Lightweight and Sustainable Materials	Manufacturing Technologies for Lightweight Polymeric Materials	Design Optimization of Lightweight Polymeric Materials
<i>Session Advisor</i>	Asst. Prof. Dr. Laongdaw Techawinyutham	Asst. Prof. Dr. Jiratti Tengusthiwat	Dr. Krittirash Yorseng
<i>Session Chairs</i>	Dr. Harikrishnan Pulikkalparambil Dr. Divya Divakaran	Dr. Vijay Raghunathan Dr. Vinod Ayyappan	Dr. Rajeshkumar Lakshminarasimhan Dr. Sathish Kumar Palaniappan

## Important Dates

**Submission of Abstract : 15 December 2022**

**Notification of Acceptance : 20 December 2022**

**Submission of first Draft : 20 January 2022**

**Submission of camera-ready Manuscript : 05 February 2022**

**Abstract Template:** [https://docs.google.com/document/d/1eHTyHVwXurtZm17r8NJ4huUFH70aHp\\_- /edit?usp=sharing&oid=106228559033649349619&rtpof=true&sd=true](https://docs.google.com/document/d/1eHTyHVwXurtZm17r8NJ4huUFH70aHp_- /edit?usp=sharing&oid=106228559033649349619&rtpof=true&sd=true)

**Registration Link:** <https://forms.gle/YA2va4Htk3ok75gN6>



## Publication (Free)

\*\*\*All accepted **and presented** papers will be published in Scopus-indexed journals.

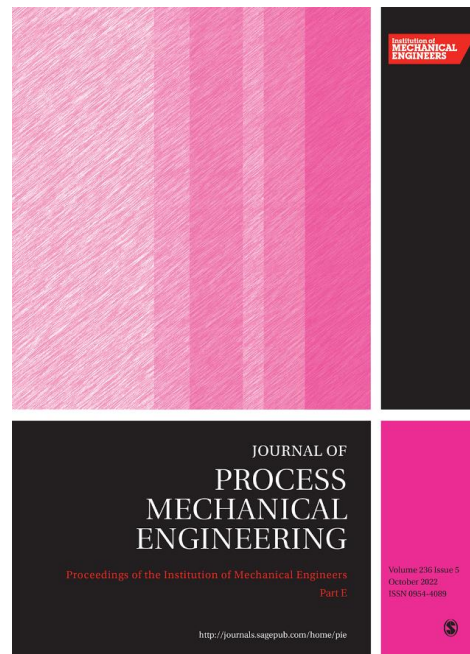
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\*\*Soon we will update more journals.

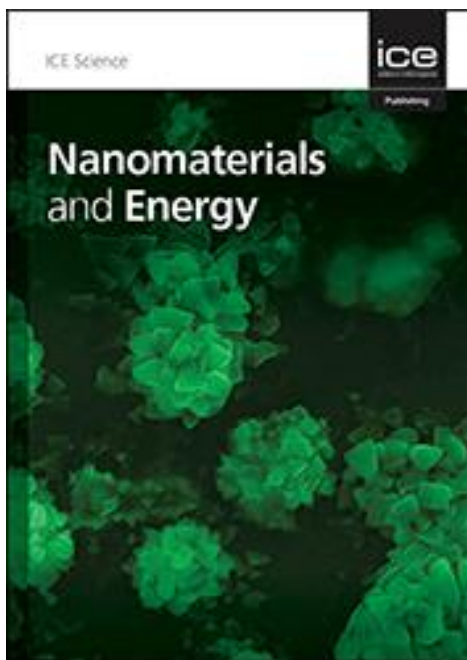


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