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ICECREAM

International Conference on Engineering, Construction, Renewable Energy, and Advanced Materials



Synergizing Sustainable Technologies Towards Resilient Future

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**WELCOMING REMARK
HEAD OF THE COMMITTEE ICE CREAM 2024**

السَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ



This conference is one of the routine activities carried out by the Faculty of Engineering, Universitas Muhammadiyah Jakarta and this time in collaboration with the Faculty of Agriculture Universitas Muhammadiyah Jakarta. This activity aims to be a venue for scientific activities for academics and practitioners. Apart from that, one of them is to update new knowledge that continues to develop and collaborate between fields. SEMNASTEK 2024 and the third ICECREAM carry the theme "Synergizing Sustainable Technologies Towards Resilient Future".

This conference not only disseminated the work of lecturers, students and practitioners but was also attended by reputable keynotes in their respective fields. And also co-hosts from academics and practitioners who did not miss out on enlivening this activity.

Allow me to express my infinite gratitude to the Steering Committee and the entire Organizing Committee, all reputable reviewers who have taken the time to review a number of articles, presenters and participants who are the core of this event and the sponsoring companies and institutions that have supported the success of this event.

On behalf of the Faculty of Engineering and the Faculty of Agriculture, Universitas Muhammadiyah Jakarta, we apologize profusely for any shortcomings and use this as material for future evaluation. See you next year

وَلَسَّلَامٌ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ

Jakarta, April 2024
Faculty of Engineering Universitas Muhammadiyah Jakarta
Head Of Committee

Renty Anugerah Mahaji P, ST., MT

**WELCOMING REMARK DEAN
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السَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ



Alhamdulillah, In the name of Allah, the Most Beneficent and the Most Merciful. May peace, mercy, and blessings of Allah be upon us. Sholawat and Salam may always be given to our beloved Prophet Muhammad SAW (peace be upon him), along with his family, friends and followers who are istiqamah, *إن شاء الله* including all of us, *أَمِينَ يَا رَبَّ الْعَالَمِينَ*.

Faculty of Engineering UMJ, in collaboration with the Faculty of Agriculture UMJ, is again holding the 3rd International Conference on Engineering, Construction, Renewable Energy and Advanced Materials (ICECREAM) in 2024 with the topic: *Synergizing Sustainable Technologies Towards Resilient Future*.

Sustainable technology requires design and engineering for resilience. Resilience is defined as: i) the ability of a system to adapt spontaneously in response to changes in its environment, or ii) the ability of a system or series product to induce rapid adaptation by design to changing conditions.

There are many problems in various aspects that we must face. The answers to the problems we face today will not be found in one scientific discipline but will require the ability and willingness to work across disciplinary boundaries in synergy and collaboration to find solutions.

Hopefully this proceeding can achieve the goal of providing effective articles for students (including college students), researchers and practitioners to advance science, research and technology, so that they can produce outputs that are useful for the development of creative and innovative science, research and technology.

Finally, we would like to express our deepest thanks to the Steering Committee and Organizing Committee, as well as institutions, companies and volunteers who have directly or indirectly supported the success of this event and proceedings. Even though we have tried our best to be professional, on behalf of the Faculty of Engineering and the Faculty of Agriculture, UMJ, we apologize profusely for any shortcomings and inconvenience that occurred.

With the spirit of synergy and collaboration, through this proceeding we invite all parties to work together and strengthen cooperation so that we can become **strong individuals, resilient institutions and tough Nation**

وَلَسَّلَامٌ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ

Jakarta, April 2024

Faculty of Engineering Universitas Muhammadiyah Jakarta

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Assoc. Prof. Dr. Ir. Irfan Purnawan, S.T., M.Chem.Eng

**WELCOMING REMARK
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السَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ



I would like to address my appreciation to Faculty of Engineering Universitas Muhammadiyah Jakarta (UMJ) for conducting the International Conference as the annual event of Engineering Faculty. International Conference on Engineering, Construction, Renewable Energy, and Advance Materials (ICECREAM) 2024, entitled: “Synergizing Sustainable Technologies towards Resilient Future” which was held by the Faculty of Engineering, Universitas Muhammadiyah Jakarta is an important event to discuss and resolve the synergizing sustainable technologies towards resilient future.

One of the key advantages of synergizing technologies is the ability to leverage the strengths of individual technologies to create more powerful and effective systems. Synergizing technologies involves the integration and coordination of multiple technologies to achieve a common objective. This approach can be particularly effective in the field of defense, where technologies such as artificial intelligence, robotics, big data analytics, and cyber security are playing an increasingly important role.

UMJ is committed to supporting sustainable technological synergy. It is hoped that by developing knowledge, we can reach support in increasing public participation in the development of Science and Technology in Indonesia.

On behalf of UMJ leader, I would like to convey my gratitude to the dean, vices dean, and all committee for initiating the ICECREAM event. Hopefully, ICECREAM can be fruitful and has the benefits for the advancement of science that is beneficial to humanity.

We hope that this annual program can continue and produce many new thoughts in the field of science and technology, and can bring people's thought more advanced.

وَلَسَّلَامٌ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ

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