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About the SEFI Journal of Engineering Education Advancement

The ***SEFI Journal of Engineering Education Advancement*** offers a route to share ideas, emerging research, experiences and innovations in the field. This peer-reviewed, open-access, online and archived journal is an official journal of SEFI, the European Society for Engineering Education.

The journal aims to support the advancement of engineering education. It welcomes exciting new innovations and ideas in a wide range of areas.

It is an official journal of the European Society for Engineering Education but with a global outlook. The journal recognises that innovation in engineering education is not constrained by borders and while some papers may have a specific European context, we welcome high quality manuscripts on exciting developments internationally.

The journal is primarily focused on learning and teaching of engineering in higher education, though in the widest sense. In addition to papers on higher education practice and approaches, high quality work of interest to the engineering education community are also of interest, such as those addressing engineering practice, lifelong learning, non-traditional entry routes and graduate outcomes.

For more details and to submit your work please visit : **SEFI-JEEA.ORG**

Editorial Team

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Editorial

Engineering education is undergoing profound transformation in response to rapidly evolving technological, societal, and environmental challenges. Among these, the growing influence of artificial intelligence, the urgency of sustainability, and the increasing complexity of interdisciplinary collaboration are key drivers in shaping how best to educate future engineers.

A theme emerging across the issue is the importance of responsibility in engineering, particularly in relation to the ethical, social, and environmental implications of engineering decisions. Mirsch, Moreno, Schultz, and Leicht-Scholten examine the prescient topic of responsible engineering in relation to AI. Their work uses student reflections to highlight not only the growing awareness among engineering students of ethical challenges, but also the need to embed responsibility for the use of AI more deeply within curricula, positioning it as a core skill and not simply a peripheral concern.

Continuing this strand on responsibility, some contributions explore new learning structures that enable students to engage with real-world problems. Sivertsen's article on technical student-run projects demonstrates how such initiatives can act as powerful enablers of cross-disciplinary learning, allowing students to develop collaboration, leadership, and real world problem-solving skills. Meanwhile Forbes' paper on community-centred sustainability innovations emphasises the value of grounding engineering design education in local contexts, where students work alongside communities to co-create solutions and help students see societal responsibility as a key aspect of engineering problem solving.

A further key strand of this issue concerns pedagogical innovation, particularly through experiential learning in highly specialised fields with Lazendic-Galloway, Mackus, and Deijkers explore teaching the applications of plasma physics via challenge based initiatives.

Hermund, Rees, and Duedahl-Olesen investigate how structured roles and knowledge-sharing practices can foster student motivation, critical thinking, and the development of engineering competencies. These contributions reinforce the importance of active learning strategies that engage students as contributors rather than passive recipients of knowledge.

The issue also highlights the significance of integrative experiences in engineering programmes. Poblete, Leiva, and Flores present an account of a multidisciplinary capstone project, demonstrating how such experiences can successfully tie together diverse skills while preparing students for professional practice. Their findings underscore the value of collaboration across disciplines and the role of project-based learning in bringing application to formal theory.

Finally, Kisaalita's reflective study on a graduate course focused on developing research thinking offers insight into the cognitive and reflective dimensions of engineering education. By capturing student reflections, this reveals how careful pedagogical design can help foster deeper forms of critical awareness among students.

We hope you enjoy this issue and hope you might consider deploying some of the ideas you have read about into your own context……and, as always, if you would like to join us as an author we look forward to hearing about your approaches and if you want an early scoop on the work of others please sign up as a reviewer – we would be delighted to welcome you.

Gareth Thomson

Editor in Chief

SEFI 2026

Delegates head to Prague this September – Join Us ?

The 54th SEFI 2026 Annual Conference, which will be hosted by the Czech Technical University (CTU) in Prague, Czechia, from 7 to 10 September 2026. The conference is expected to attract approximately 600 participants from across Europe and beyond, providing an opportunity to explore the critical role of engineers in addressing societal challenges and shaping the future of education and technology.

Conference Theme : Engineering Education for Humanity in Challenging World

The current global landscape is characterized by many complex and challenging situations that demand the expertise and involvement of engineers and scientists. Many of these challenges frequently call for innovative engineering solutions, whether directly through technical design or indirectly through multidisciplinary collaboration. While engineers are often focused on providing reliable, optimized, and efficient solutions, the broader societal, ethical, and cultural impact of these solutions might be beyond the scope of traditional engineering practice.

Addressing these challenges effectively requires a more holistic perspective integrating insights from social sciences, humanities and ethics into the engineering curricula and professional practice. By fostering interdisciplinary understanding, engineers can not only create technically robust solutions but also ensure that these solutions are socially responsible, culturally sensitive, and sustainable in the long term.

By emphasizing humanity in engineering, we aim to foster approaches that tackle global challenges thoughtfully, and that produce solutions that advance technology while nurturing society, culture, and human sympathy. The 54th SEFI Annual Conference seeks contributions that explore how engineering and scientific practice can be more deeply aligned with human values.

Hopefully we will see you there !

More Info : https://www.sefi2026.eu/