

Call for Papers: AI-empowered future underground space

The ECCOMAS Thematic Conference on Computational Methods and Information Models in Tunneling (EURO:TUN 2025) took place on September 22-24, 2025 in Vienna, Austria on the premises of the TU Wien. It aimed to provide a forum for the discussion, assessment and review of latest advancements in research, new developments and applications of computational models and methods in tunnelling and subsurface engineering. Furthermore, it provided an overview of the current state of the research and future perspectives of numerical modelling and computational technologies in underground construction.

On September 22-23, 2025, relying on the platform of EURO:TUN 2025 which enjoys a high international reputation, Frontiers of Structural and Civil Engineering (FSCE) hosted the "Engineering Symposium on AI-empowered Future Underground Space" in Vienna, Austria. We aim to establish a platform for fostering innovative thinking and interdisciplinary collaboration.

Concurrently, FSCE has launched a call for papers for its special issue themed "AI-empowered Future Underground Space". The special warmly welcomes participants of EURO:TUN 2025, inviting high-quality manuscripts that showcase cutting-edge research findings.

Potential topics include, but are not limited to:

- Data-centric engineering paradigms for underground infrastructure
- Digital twin technologies for real-time monitoring, simulation, and decision support
- AI-driven models for subsurface condition prediction and geotechnical classification
- AI-powered construction automation in mechanized tunneling and underground works
- AI-enabled structural health monitoring and predictive maintenance
- Human-centric design powered by AI for comfort and safety in underground space
- Optimization algorithms for layout planning and risk mitigation
- Hybrid AI-physics models for complex soil-structure interaction
- Applications of machine learning and deep learning in underground engineering
- Ethics, robustness, and explainability of AI in civil infrastructure applications

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Timeline

- Open: August 1, 2025
- Submission Deadline: December 31, 2025 (likely to be postponed)

Instructions for submission

Please submit your manuscript in the submission website:

<https://mc.manuscriptcentral.com/fsce>

Choose in the list of paper type: “Info Column: AI-empowered future underground space”.

This Special Issue builds on “Engineering Symposium on AI-empowered future underground space” at EURO:TUN 2025. However, any author interested in contributing is warmly welcome to submit a full-length paper.