14th International Conference on Image Processing Theory, Tools & Applications
October 13-16, 2025
Istanbul, Türkiye
IPTA 2025

Special Session Chairs:

Amir-Ali FEIZ,

University of Evry Paris Saclay, LMEE, France.
amirali.feiz@univ-evry.fr

Khalifa DJEMAL,

University of Evry Paris Saclay, IBISC, France.
khalifa.djemal@univ-evry.fr

Khadija BABA,

University of Mohammed V Rabat, EST Salé, LGCE, Morocco.
khadija.baba@est.um5.ac.ma

CALL FOR PAPERS: Special Session

Data Processing and Machine Learning in Civil and Environmental Engineering

Rapid advances in Artificial Intelligence (AI), particularly Machine Learning (ML), combined with Big Data, are opening new avenues for design, analysis and planning in civil and environmental engineering. The long-awaited promises of AI are now a reality across many disciplines. Applying AI methods, combined with physical knowledge, can improve structural analysis and provide better short-term day-to-day forecasting for risk management and high-impact events. With expanded storage capacity and new forms of data processing, Big Data and Machine Learning analytics are paving the way for more confident and reliable information for decision-making and impact research in civil and environmental engineering.

This special session aims to provide the most recent developments in theses fields using Big Data and Machine Learning algorithms. The topics of this special session include (but are not limited to):

- Detection and tracking of structural defects using image processing and ML
- ML for construction data analysis
- ML for forecasting weather conditions affecting construction projects
- Data assimilation and ML for predictive maintenance of infrastructure
- ML algorithms in material behavior modeling
- ML approaches for structural health monitoring
- ML for seismic vulnerability assessment
- ML and remote sensing for applications in construction monitoring
- Environmental challenges in pollutant control in civil engineering using ML
- Application of Big Data to structural and infrastructure engineering
- Database for ML applications in civil and environment engineering

Emails of chairs

Amir-Ali FEIZ, amirali.feiz@univ-evry.fr

Khalifa DJEMAL, khalifa.djemal@univ-evry.fr

Khadija BABA, khadija.baba@est.um5.ac.ma