SCA'26 — Final In-Person Programme

11–12 November 2026 · Karabük, Türkiye

Venue: Iron & Steel Institute, Central Campus / Karabük University

All times are Türkiye time (UTC+3).

DAY 2 — WEDNESDAY, 11 NOVEMBER 2026

08:30 – 09:30

Registration

09:30 – 10:30

Opening Ceremony

10:30 – 11:00

KEYNOTE SPEECH

Yusuf Arayıcı · Northumbria University, United Kingdom

HBIM in Practice and the way forward to AI implementation in Cultural Heritage

11:00 – 11:30

Coffee Break

11:30 – 12:00

KEYNOTE SPEECH

Attila Kertész · University of Szeged, Hungary

How Do/Should/Will Emerging Technologies Govern Smart Systems?

12:00 – 12:30

KEYNOTE SPEECH

Alias Abdul Rahman · Universiti Teknologi Malaysia, Malaysia

Towards an Integrated 3D Strata Cadastre: Bridging LADM, BIM/IFC and 3D Building Models – A Sarawak Perspective

12:30 – 13:45

Lunch Break

13:45 – 14:15

TÜRKIYE NATIONAL 3D PROPERTY INFRASTRUCTURE

Presentation by the General Directorate of Land Registry and Cadastre

14:15 – 15:45

Technical Parallel Sessions 1

MAIN HALL · Session S22

AI for Health & Education

Chair: Gürcan Büyüksalih · 6 papers

Join on Google Meet

195 Clinician-Grounded Evaluation of a LoRA-Adapted Turkish Medical LLM for Layperson Questions

Ömer Doğan, Muhammed Emin Keçik, Sevgi Yiğit Sert

201 AN AI-DRIVEN REMOTE SPEECH REHABILITATION MODEL FOR CHILDREN WITH COCHLEAR IMPLANTS: "BEN DE KONUŞUYORUM" (I'M SPEAKING TOO)

Mehmet Kara, Amal Nadi

257 Evaluating the Impact of Physiological Parameter Unavailability on Prediction Performance in Remote Patient Monitoring Systems

Hayat Jebbar, Mohamed El Mohadab, Omar Boutkhoum

348 DiaCare: A Guideline-Anchored Bilingual Self-Care Chatbot for Type 2 Diabetes with a Deterministic Clinical Rule Engine

Shruthi Reddy, Diya Reddy, Subitha L, Anandaraj Rajagopal, Sandosh S

87 Curriculum Studio AI: A Human-in-the-Loop Framework for Intelligent Curriculum Development in Learning Management Systems

Muhammad Jamil, Adnan Kavak, Funda Uğurlu

121 Temporal Resolution and Forgetting-Aware Gains in DKT-Forget: An Audit of Three Knowledge Tracing Benchmarks

Leila Boukhris, Marouane Nazih, Ayoub Lahmidi, Khalid Minaoui

MEETING ROOM 1 · Session S23

Cybersecurity, Blockchain & Secure Systems

Chair: Anouar Abdelhakim Boudhir · 5 papers

Join on Google Meet

69 Automated Taint Tracking and Data Leak Mitigation for IoT Companion Apps

Simge Kaplan, Fadi Yılmaz

267 AdaptChain-Pay: DQN-Based Runtime Adaptation of Hyperledger Fabric for Digital Payment Systems

Nihad Lechhab Ouadrassi, Mohammed Said Boukhryss, Abdellah Azmani, Khalid Jebari Hassani

418 DDoS Traffic Detection and Classification Using Machine Learning: A Simulation-Based Evaluation

Tarık Almohamad, Batoul Reslan, İsmail Rakıp Karaş

43 Machine Learning-Based Kernel Anomaly Detection Using System Calls and Resource Utilization Data

Elif Yıldırım, Yasin Ortakçı, İsa Avcı

432 Bibliometric Mapping of Generative AI and Information Disorder Research

Hacer Kubra Sevinc, Kürşat Karaoğlan, Fatih Kırışık

MEETING ROOM 2 · Session S24

Architecture, Cultural Heritage & Smart Urban Environments

Chair: Tamas Pflanzner · 6 papers

Join on Google Meet

52 From Conventional to Smart and Sustainable Dwellings: Smart Earthen Building Framework
Tuba Tatar

68 Using Collective Memory to Recreate a Lost Urban Landscape with Generative Artificial Intelligence: A Comparison of Four Protocols in Kayseri
Özlem Kevseroğlu Kurban, Vildan Yıldırım, İrem Yaşar

89 Human-Centered Architectural Intelligence: Re-framing Architectural Design Through AI, Behavioral Analytic, and Participatory Decision-Making
Jana Tahboub, Khaldoun Zreik

271 From Architectural CAD Drawings to CityGML: A Rule-Based Automated Workflow for 3D Cadastral Building Modelling
Murat Doğan

261 Data Integrity and a Group-Aware Evaluation Protocol for Flood-Water Segmentation in Heterogeneous Aerial RGB Images
Semih Açmalı, İsmail Çelebi

294 UAV-LIDAR-BASED REAL-TIME TRAVERSABILITY DETECTION FOR EMERGENCY VEHICLES IN HISTORIC URBAN FABRICS: THE GEÇİT REFERENCE ARCHITECTURE
Enes Yiğit, Ekrem Keleş, Ferhat Atasoy

15:45 – 16:15

Coffee Break

16:15 – 18:00
Technical Parallel Sessions 2

MAIN HALL · Session S25
AI, Robotics & Smart Applications
Chair: Alias Abdul Rahman · 7 papers
Join on Google Meet

258 Resilient Crop Recommendation for Smart Agriculture using Entropy-Gated Federated Feature Fusion
Murat Goksin Bakir, Yücel Batu Salman

367 Efficient Waste Classification and Container Fullness Detection using Transfer Learning for Drone Applications in Smart Cities
Ayşen Özün Türkçetin, Emine Beyza Beder

372 Grip Area Detection for Vacuum Grippers on Narrow Surface Objects
Özgür Karagöz, Ali Ömer Baykar

377 Risk-Aware GNN Reinforcement Learning for Dynamic Multi-Vehicle Routing under Travel-Time Uncertainty
Houda Lahrache

427 A GUI-based Incentivization Approach for Eco-friendly Transportation
Zahra Delavari, Tamas Pflanzner, Panote Siriaraya, Eiji Aramaki, İsmail Rakıp Karaş, Teriitutea Quesnot, Jonas Fischer, Wan-Jou She, Shoko Wakamiya, Christophe Claramunt, Attila Kertesz

421 Towards a Data-Driven Thermal Digital Twin for Buildings: Integration of IoT Monitoring and Machine Learning

Mohamad Ali Noureddine

407 BASIC IMAGE PROCESSING ALGORITHMS ON ZEDBOARD ZYNQ-7000 FPGA

Hasamuddin Afzali, Ferhat Atasoy

MEETING ROOM 1 · Session S26

Smart Governance, Education & Information

Chair: Rasem Qudaih · 7 papers

Join on Google Meet

263 Digital Competencies for Higher Education Institutions: An Integrated Model from the Smart University Perspective

Bernardo Abadia

335 A Bibliometric Analysis of Master's and Doctoral Theses on Sentinel Satellite Imagery in Türkiye: 2024-2026

Mesut Ozdag, Elif Nurber Borucu, Ismail Rakip Karas

416 The CARE Model for Adaptive Organizations in Smart and Sustainable Environments: Integrating Knowledge Management, Governance, and Strategic Foresight

Fereidoon Bidollahkhany

422 From Automation to Agency: Governing Delegated Decision Authority in Smart Tourism Destinations

Rasem Qudaih, Nicholas Caldwell, Khaoula Omhand

67 Wireless Communication System and Analysis for Detecting Railway Vehicles at Urban Level Crossings

burakhan elden, Vali Tayfun Kilic

202 AQUA-TWIN-AI: AI-Driven Digital Twin for Wastewater-Based Mucilage Risk Prediction and Decision Support in the Marmara Basin

Umiar Aslam, Muhammad Jamil, Adnan Kavak, Kerem Küçük, Sajjad Ahmad Khan

229 A Capability-Tiered Reference Architecture for Urban Digital Twins in Resource-Constrained Municipalities

Betül Karaoğlan, Muhammet Tahir Güneşer

MEETING ROOM 2 · Session I16

AI, Machine Learning & Cybersecurity Applications

Chair: Tarık Adnan Almohamad · 7 papers

Join on Google Meet

266 Beyond Known Threats: Lightweight Open-Set Intrusion Detection via Mahalanobis Embedding Scoring

mohammed said boukhryss, Nihad Lechhab Ouadrassi, Abdellah Azmani, Khalid Jebari hassani

351 REMAP: A Regulation-Aware, Event-Driven Microservice Architecture for Digital Rehabilitation Platforms

Mesut Ozdag, Mehmet Ali Ebleme, Abdullah Furkan Yegin, Ismail Rakip Karas

358 A Comparative Benchmark of k-NN, Random Forest, MLP, and Gradient Boosting Methods for RSSI/RSRP-Based Outdoor IoT Localization Across LoRaWAN, Sigfox, and Multi-Wireless Technology Datasets
Melek Şentürk, Emrullah Demiral, İsmail Rakıp Karaş, Yusuf Başer

415 A Comparative Analysis of the t-SNE and UMAP Algorithms
Levent Şen, İdris Kahraman

435 Cross-Dataset Generalization and Explainable Deep Learning for Vision-Based FDM 3D Printing Defect Detection: A Critical Literature Review
Hamza Hadzic, Emrullah Demiral, Metin Zeyveli

77 Feature Extraction and Model Development from ECG Signals for Sleep Apnea Detection
Adem Akyol, Nesrin Aydın Atasoy

434 Design, Fabrication and Vision-Based Object Detection Integration of a Biomimetic Hybrid Rigid–Soft Unmanned Underwater Vehicle Prototype
Metin Zeyveli, Esinnur Gücükçavuş, Ayman Alafandi

From 19:30

Gala Dinner (registered participants) · **Karabük University Guest House**

DAY 3 — THURSDAY, 12 NOVEMBER 2026

09:15 – 11:00
Technical Parallel Sessions 3

MAIN HALL · Session I13
3D Modelling, Point Clouds & Digital Twins
Chair: Bolanle Ojokoh · 7 papers
Join on Google Meet

105 From Digital Representation to a Vessel Digital Twin: A Scan-to-Twin Framework Based on Photogrammetric Documentation
Saleh Qanazi, Gurcan Buyuksalih, Cem Gazioğlu, Ammar Aljer

127 Development of an Observation Layer with Data Provenance on a Sensor-Free GIS-Based Smart Campus Model
Serdar Sakallı, Tahsin Yomralıoğlu, Muhammed Oğuzhan Mete

214 Class-Wise Error Analysis of Transformer-Based Airborne LiDAR Semantic Segmentation in Urban Environments
Hacer Kübra Sevinç, Ismail Rakıp Karaş

274 Point-Cloud-Derived Intermediate Representations for HBIM Modeling: A PointCab–Revit Workflow Using the São João de Calvos Chapel Dataset
Handan Aş Çemrek, Ümit Işıkdağ

328 3D GENERALIZATION IN GEOGRAPHIC INFORMATION SYSTEMS: A REVIEW FROM A COMPUTER SCIENCE PERSPECTIVE
Baha Alturan, Kadriye Karadeniz, İsmail Rakıp Karaş

393 Individual Tree Isolation in Laser Scanning 3D Point Clouds
Abdul Awal Md Nurunnabi, Salena Akter, Felicia Teferle, Ismail Karas, Jonathan Li

406 Component-Based Smart City Scoring: A Transparent Methodology for Urban Development Benchmarking

Huda Ibrahim, Alawiyah Abd Wahab, Mazida Ahmad, Mazni Omar, Shehu M Sarkintudu, Hacer Kubra Sevinc

MEETING ROOM 1 · Session I14

Remote Sensing, Land Cover & Environmental Monitoring

Chair: Bilal Yousfi · 7 papers

Join on Google Meet

218 Multi-Criteria Decision Making and Unsupervised Machine Learning for Seismic Susceptibility-Oriented Prioritization of Educational Infrastructure toward Urban Resilience

Murat Başeğmez, Ayhan Doğan

51 Integration of Augmented and Virtual Reality Applications in Architecture into Education: Bibliometric Analysis

Semahat Top, Muhammed Ünal

278 Comparative Noise Robustness Analysis of CNN and Vision Transformer Architectures in Satellite Image Classification

Abdullah Yeğin, Eftal Şehirli, İsmail Rakıp Karaş

300 Progressive Integration of Sentinel-2 Bands at 10m, 20m, and 60m Spatial Resolutions: Accuracy Analysis in Object-Based Classification

Eray Can, Peter Hofmann, Gürcan Büyüksalih, Cem Gazioğlu

433 Prediction of Urban Expansion in Konya City Center Using CA-Markov Modeling with Dynamic World Data for 2035

Onur Canbulat, Sohaıb K M Abujayyab, Ismail R. Karas

175 TWENTY-FIVE YEARS OF REMOTE SENSING IN ARCHAEOLOGY AND CULTURAL HERITAGE (2001–2025)

Burak Can Kara, Eren Gürsoy Özdemir

423 Spatial Intelligence for Infectious Disease Surveillance: A Systematic Review of GIS, IoT Wearables, Mobile Applications and Artificial Intelligence

Bimbo Damilola Ayeyemi, Abimbola Helen Afolayan, İsmail Rakıp Karaş, Bolanle Adefowoke Ojokoh Ojokoh

MEETING ROOM 2 · Session I15

Smart Cities, Urban Planning & Sustainable Built Environment

Chair: Mesut Özdağ · 7 papers

Join on Google Meet

156 Rights, Human oversight and Remedy in AI-Assisted Municipal Social Assistance: A Domain-Specific Governance Framework for Smart Cities

Fatih Kirişik, İsa Avci, Aslıhan İnan

172 GIS-Based Accessibility Assessment and Micromobility Network Planning in a Small Tourism-Oriented City: A 15-Minute City Approach—Avanos, Türkiye

Fuat Parlak, Z. Müge Akkar Ercan

231 Estimating Building Height in Storeys from Street View Imagery (SVI) Using Vision-Language Models (VLMs)

Deniz Gerçek

332 **Assessing Digital Transformation in Green Façade Research: A Critical Systematic Review**
Damlanur ilipınar, Hatice Hilal Topuz

365 **Investigation of Advanced Building Envelope Systems for Energy-Efficient Passive Buildings in Cold Climates**
Ebru Kiliç Bakirhan, Merve Tuna Kayili, Bilgehan Bakirhan

426 **Gamifying Low-Carbon Mobility in a Car-Dependent Island Destination: Design and Preliminary Evaluation of a Multimodal Route Planner for Okinawa**
İsmail Rakıp Karaş, Enishan Sardoğan, Yasin Ortakçı, Şüheda Semih Açmalı, Christophe Claramunt, Shoko Wakamiya, Wan Jou She, Panote Siriaraya, Teriitutea Quesnot, Attila Kertesz, Jonas K. H. Fischer, Eiji Aramaki, Necmeddin Gazel

436 **Ergonomic Compliance of Urban Park Furniture: A Field-Based Assessment of Three Parks in Aksaray, Türkiye**
Ayşe Karaş, Serpil Önder, Enishan Sardoğan

11:00 – 11:15

Coffee Break

11:15 – 11:45

Conference Closure and Group Photo

11:45 – 13:00

Lunch Break

13:15

Bus departure for the Safranbolu city tour (registered participants)

POSTER SESSION

Poster

Poster Session
1 paper · I17

425 **From potential to effective soil erosion: integrating hydrological connectivity index and Random forest validation in the Oued Rmel watershed, Tunisia**
Rania Chrigui, Noamen Rebai

Full author lists are shown with each paper. All times are Türkiye time (UTC+3).