IEEE UV2026

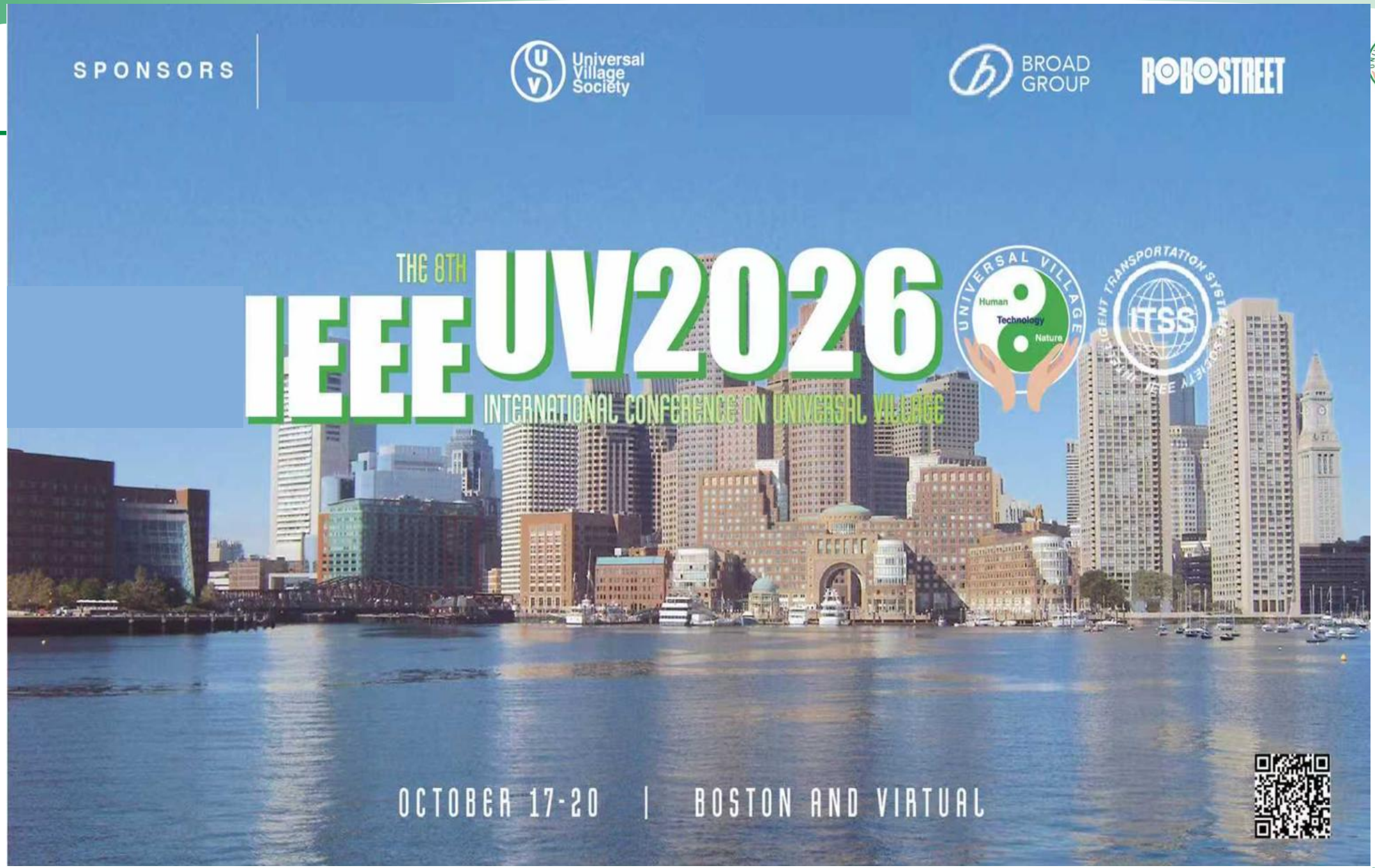
General Information



IEEE UV2026 Organizing Committee

IEEE UV Conference Board

https://universalvillage.org/ieee-uv-conference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Human
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OCTOBER 17-20 | BOSTON AND VIRTUAL

UV Concept & IEEE UV Conferences

- **Universal Village (UV)** is a new concept proposed by **MIT's Universal Village** Program in 2012. **UV** exemplifies an ideal future society that pursues harmony between humans and nature through the wise use of advanced technologies.
- Led by the **MIT** professors who initiated the **MIT UV** program as well as the UV conferences, the **IEEE UV** Conferences call for collective efforts from world-renowned experts across multi-disciplinary fields to collaborate beyond traditional field boundaries. Previous IEEE UV conferences **(UV2013, UV2014, UV2016, UV2018, UV2020, UV2022** and **UV2024)** were groundbreaking international venues that inspired successful collaboration among governments, academia, industries, and civil society.

https://universalvillage.org/ieee-uv-conference

The UV Concept

Universal Village (UV) & Future Lifestyles



Universal

❖ Following the laws of the universe

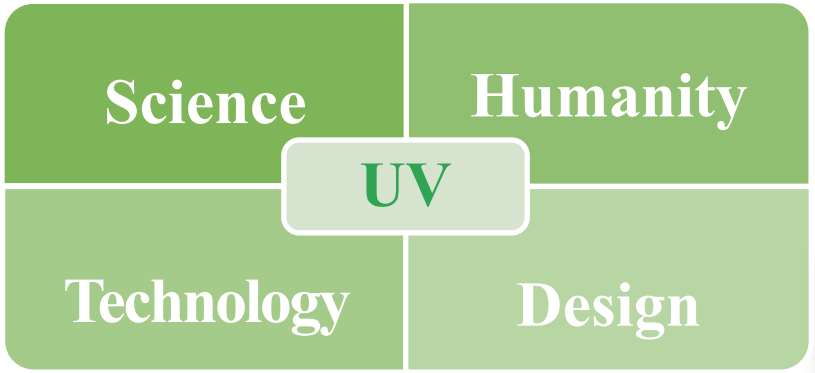
Village

❖ Cities are not the only living environments

Universal Village

❖ New lifestyles beyond Smart Cities following the laws of the universe

UV Elements



4 Impacting Factors

- UV Information Flow
- UV Material Cycles
- UV Lifestyles
- UV Communities

8 UV Sub-Systems

1. Smart Home and Community
2. Smart Medicine and Healthcare
3. ITS, Urban Planning and Crowd Management
4. Smart Energy Management
5. Smart City Infrastructure
6. Smart Response System for City Emergencies
7. Smart Environmental Protection
8. Smart Humanity

UV Scope


pollution
Future
Utilization
Disposal
New energy sources
Dynamic impact of system integration.
Green
Interaction and Integration of Subsystems
Dynamic impact of subsystem implementation
Mutual impact
Integration
System Integration
Interaction impact
and Implementation
System designs
Interaction
Production
Dynamic
Harmless
material to environment
New materials
Garbage disposal
waste
Saving
mobility
Infrastructure Layer
Cloud and mobile computing
Data fusion and data mining
safety
Hierarchical Layers and Components
Multi-platform information retrieval and visualization
Informational Layer
UV building and communities
UV healthcare and nursing
New life styles enabled by IT
UV transportation
various IT systems
Security
Life
smart
IT
city
Inter-entity and international collaboration
Human and Social Factors
Social Factors
Cultural
Regional Factors
Future society
Ecology
Future Work
Political factors
Governments
System design
Regional
Future
Economics
Universities
Organic Pesticides
to protect ecosystem

Previous UV Conferences (UV2013-UV2022)

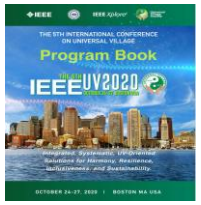
THE 8TH IEEE UV2026 INTERNATIONAL CONFERENCE ON UNIVERSAL VILLAGE
OCTOBER 17-20 | VIRTUAL AND LOCAL

UV2022 Virtual



POST-PANDEMIC REFLECTION ON HEALTH, HARMONY, AND SUSTAINABILITY: MOBILITY & VIRTUAL CONNECTION; DIVERSITY & SYSTEM EFFICIENCY; RESPONSIVENESS & RESILIENCE; INCLUSIVENESS & INTEGRATION

UV2020 Boston



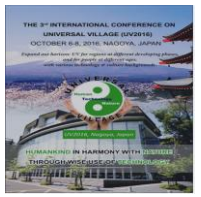
INTEGRATED, SYSTEMATIC, UV-ORIENTED, SOLUTIONS FOR HARMONY, RESILIENCE, INCLUSIVENESS AND SUSTAINABILITY

UV2018 Boston



DIVERSITY, MOBILITY AND CONNECTIVITY FOR EMERGENCE OF HARMONY IN UNIVERSAL VILLAGE

UV2016 Nagoya



UV FOR REGIONS AT DIFFERENT DEVELOPMENT PHASES, PEOPLE AT DIFFERENT AGES WITH VARIOUS TECHNOLOGY & CULTURAL BACKGROUNDS

UV2014 Boston



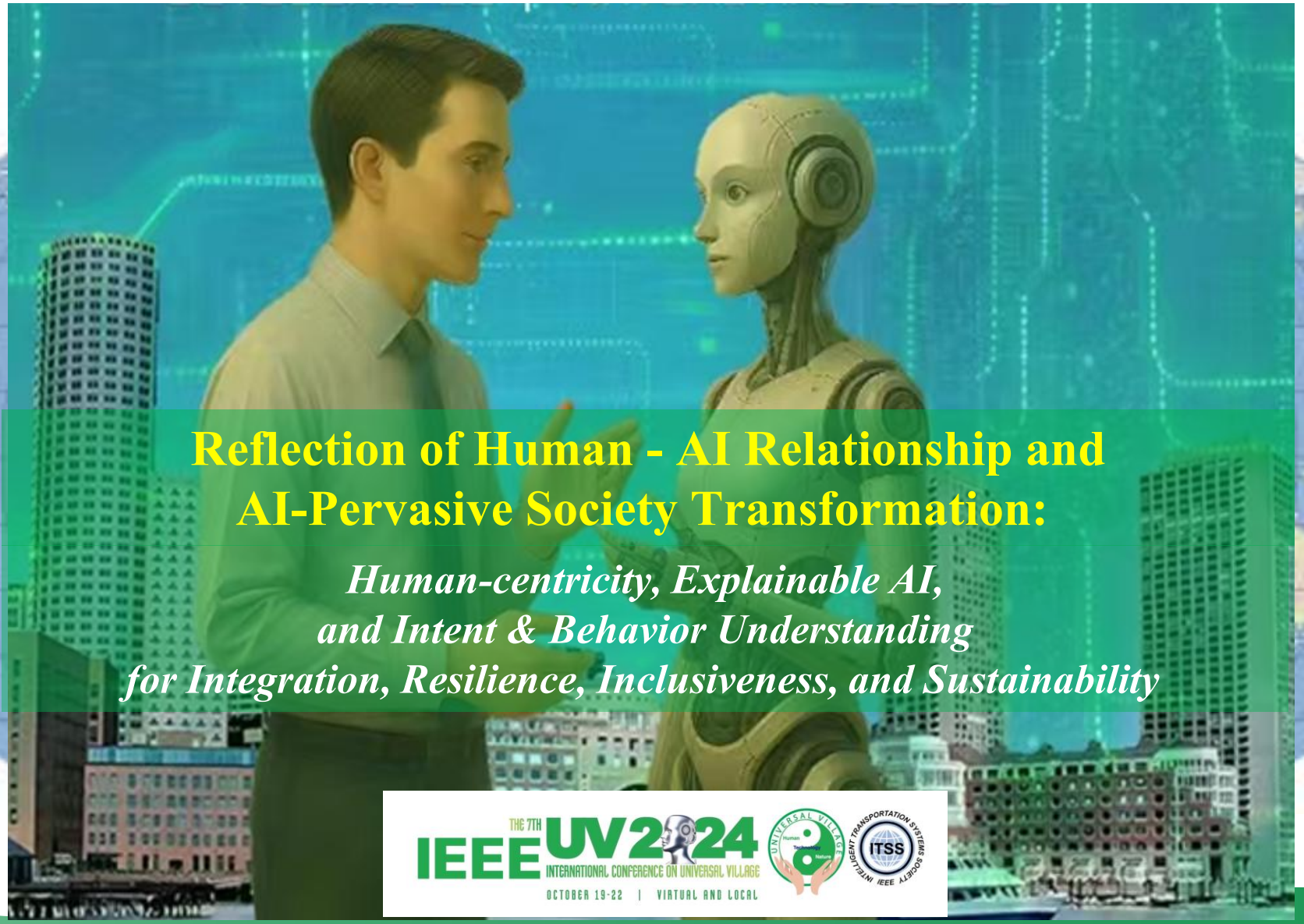
INNOVATE FUTURE LIFESTYLE FOR SUSTAINABLE HAPPINESS

UV2013 Beijing



HUMANKIND IN HARMONY WITH NATURE THROUGH WISE USE OF TECHNOLOGY

Previous UV Conferences (UV2024)



IEEE UV2026 Themes



Human-Centered AI Transformation for Future Empowerment:

- ***Explainable & Human-Intelligible Understanding***
- ***Intent-Aware Reasoning & Accountable Decision-Making***
- ***Human-Authorized AI Action***
- ***Human-Supervised Reflective Learning***

Introduction to IEEE UV2026

After the great success of **IEEE UV2024** and **IEEE UV2022**, **the 8th International Conference on Universal Village (IEEE UV2026)** will be held both **Virtually** and **Locally** from October 17-20, 2026.

Subjects for IEEE UV2026 include but are not limited to the following topics:

- The Human - AI Relationship and AI-Pervasive Societal Transformation
- Developing systematic methodologies to advance UV technologies and to develop UV systems, including Intelligent Transportation Systems, Urban Planning and Crowd Management, Smart Infrastructure, Smart Response Systems for Emergencies, Smart Energy Management, Smart Environmental Protection, Smart Home and Community, Smart Medicine and Healthcare, and Smart Humanity
- New lifestyles enabled by IT / New energy sources / New materials / Effective microorganism technology and environmental protection
- Exploring UV development paths that are appropriate for different regions at different development phases, from theoretical exploration, research development, framework design, implementation, engineering, to integration.
- Inspiring successful collaboration among governments, academia, industries, and civil society to address different UV challenges and seek practical UV solutions

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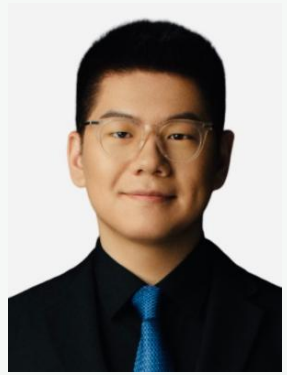

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IEEE UV2026 Dates and Venues

Dates: October 17 - 20 , 2026

Following the Successful IEEE UV2022, UV2024,
IEEE UV2026 will be held
Virtually & Locally

Email : uv.conf.committee@universal-village.org
Website： https://www.UniversalVillage.org

IEEE UV2026 Overview

THE 8TH IEEE UV2026 INTERNATIONAL CONFERENCE ON UNIVERSAL VILLAGE
OCTOBER 17-20 | VIRTUAL AND LOCAL

Keynote Day

Technical Sessions

Special Sessions

UV Forums

1. UV City Forum
2. UV Student Forum
3. UV Art Forum

UV Competitions

1. UV Data Science Competition
2. UV Modeling Competition
3. UV Pitch Competition
4. UV K-12 Challenge

UV Workshop

UV Poster & Exhibition

UV Roadmap Discussion

IEEE UV2026 Basic Structure of Sessions

Keynote Day

- Organized by IEEE UV2026 program committee
- Opening remarks and invited keynote talks

Technical Sessions

- Organized by session chairs
- Distribute "Session Call-for-Papers" by session chairs
- Session chairs select oral talks and review submitted papers

Special Sessions

- Distribute "Call-for-Session-Proposals" by the program committee
- Special sessions organized by special session chairs
- Special session chairs select oral talks, panels, and organize paper submissions

Technical Sessions (A)

1. **[Session 1]** ***UV Vision, Development, and Evaluation***
   - [TS1-A] Vision for Universal Village
   - [TS1-B] Development Status of Universal Village
   - [TS1-C] UV Indices, UV Incentive Mechanisms, and Evaluation of UV Subsystems - Methods, Technologies, and Systems

2. **[Session 2]** ***UV Framework Design, Modeling, and System Integration***
   - [TS2-A] Systematic and Integrated Frameworks for UV Subsystems and Contributing Factors
   - [TS2-B] Intelligent Modeling, Simulation, and System Analysis
   - [TS2-C] Scalability, Sustainability, and Human-Centered Design in UV System Integration
   - [Special Session] [TS2-SP1] Intersection of Energy, Power Science and Smart Cities

3. **[Session 3]** ***Mobility, Planning, Management, and Infrastructure Innovations***
   - [TS3-A] Intelligent Transportation, Urban Planning, and Smart City Infrastructure
   - [TS3-B] Intelligent Vehicles, Mobility Support for Vulnerable Groups
   - [TS3-C] Smart Response Systems for City Emergencies
   - [TS3-D] Information Flow, Communication, Networks, and Security
   - [TS3-E] UV Underground: Underground Infrastructure & Future Urbanization Needs
   - [Special Session] [TS3-SP1] Built Environment, Travel Behavior, and Data-Driven Mobility Planning
   - [Special Session] [TS3-SP2] Sustainable Built Environments: Algorithmic Modeling and Generative AI

Technical Sessions (B)

4. **[Session 4]** ***Energy and Material Innovations for Efficiency, Safety, and Sustainability***
   - [TS4-A] Renewable Energy and Smart Energy Management
   - [TS4-B] Smart Materials and Devices
   - [Special Session] [TS4-SP1] Semiconductor Chip Manufacturing in the AI Era: Enabling 3D Optoelectronics & Next-Generation Integration
5. **[Session 5]** ***Manufacturing Innovations for Efficiency, Safety, and Sustainability***
   - [TS5] AI-Enabled Manufacturing
6. **[Session 6]** ***Agriculture Innovations for Efficiency, Safety, and Sustainability***
   - [TS6] AI-Driven Smart Agriculture: Bridging Tech Innovation & Sustainable Growth for Rural Vitalization
7. **[Session 7]** ***Environmental Innovations for Harmony between Humans and Nature***
   - [TS7-A] Smart Environmental Protection; Smart Ecological Systems
   - [TS7-B] Mobility-enabled Material Cycles; the Circular Economy; Trash and Scrap Collection, Processing, Reuse, and Recycling
   - [TS7-SP1] Global Warming and Smart Ecological Systems
8. **[Session 8]** ***Lifestyle Style Innovations for Happiness***
   - [TS8-A] Smart Homes and Community, Virtual Living
   - [TS8-B] Mobility, Connectivity, and Innovative Lifestyles
   - [Special Session] [TS8-SP1] Integration of Sports Science and Medical Research: Interdisciplinary Innovation in Sports, Traditional Chinese Medicine, and Western Medicine

Technical Sessions (C)

9. [Session 9] *Healthcare Innovations for Safety and Well-Being*

- [TS9-A] AI-assisted Healthcare Monitoring
- [TS9-B] Smart Medicine and Smart Healthcare
- [TS9-C] Public Health, Epidemic Prevention and Control
- [TS9-D] The Fusion of Traditional Chinese Medicine and Modern Science
- [TS9-E] AI-Driven Sports Training, Exercise, and Fitness
- [Special Session] [TS9-SP1] AI-Powered IoMT Telehealth Innovation

10. [Session 10] *Social and Cultural Revolution for Diversity, Inclusiveness, Fairness, and Preservation of Cultural Heritage*

- [TS10-A] Urbanization, Social Governance, and Smart Communities
- [TS10-B] Smart Government and Social Services
- [TS10-C] Integrated Solutions for Smart Humanity
- [TS10-D] Smart Design and Design Ethics
- [TS10-E] Cultural Heritage Preservation and Creative Industries
- [TS10-F] Equitable AI for the Underrepresented and Vulnerable Groups
- [TS10-SP1] Digital Reconstruction and Interpretation of Cultural Heritage: Architecture, Landscape, and Spatial Experience

Technical Sessions (D)

11. **[Session 11]** ***Algorithms, Benchmark Development, and Data Management***
    - [TS11-A] Responsible and Ethical Data Management and Processing
    - [TS11-B] Learning Algorithm and Model Development, Analysis, and Interpretability
    - [TS11-C] Benchmark Development, Evaluation, and Long-Term Reproducibility

12. **[Session 12]** ***Special Sessions - New Proposed Sessions***
    - [SP12-A] AI and Finance
    - [SP12-B] Reconstructing Human-Centered Family Education in the AI Era: Learning, Parenting, and Relational Development
    - [SP12-C] Shanwei Forum: Quality-Driven Development of New Energy Vehicles through Sustainable Smart Manufacturing
    - [PE] AI Skills for Tomorrow's Workplace



Thank You!

Let's Work Together to Make IEEE UV2026 Successful!

Another UV Milestone!