The 2026 World Congress on Information Technology Applications and Services

"Advanced Mobile, Communications, Security, Multimedia, Vehicular, Cloud, IoT, and Computing"

February 11-13, 2026
Jeju, Korea

Organized by

World IT Congress & KCIA

2026 International Conferences
(Sponsored/Technically Sponsored by KCIA)

The 20th International Conference on Multimedia and Ubiquitous Engineering (MUE 2026)
- April 23-25 2026, Qingdao, China
- http://www.mue-conference.org/2026/

The 21th International Conference on Future Information Technology (FutureTech 2026)
- April 23-25 2026, Qingdao, China
- http://www.futuretech-conference.org/2026/

The International Conference on Big data, IoT, and Cloud computing (BIC 2026)
- Aug 12-14, 2026, Danang, Vietnam
- http://www.bic-conference.org/2026/

The 18th International Conference on Computer Science and its Applications (CSA 2026)
- Dec 27-29, 2026, Kitakyushu, Japan
- http://www.csa-conference.org/2026/

General Chairs' Message from the World IT Congress 2026

The 2026 World Congress on Information Technology Applications and Services (World IT Congress 2026) - "Advanced Mobile, Communications, Security, Multimedia, Vehicular, Cloud, IoT, and Computing" will be held in Jeju, Korea on February 11~13, 2026. The World IT Congress 2026 is aimed at the address key themes on "Advanced Mobile, Communications, Security, Multimedia, Vehicular, Cloud, IoT, and Computing." World IT Congress 2026 will be the most comprehensive conference focused on information technology, computing, and applications, and will provide an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of Advances in IT, Applications, and Services. In addition, the conference will publish high quality papers which are closely related to the various theories and practical applications in advanced IT. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in this important subject.

Accepted and presented papers highlight new trends and challenges of computer science and its applications. The presenters will show how new research could lead to novel and innovative applications. We hope you will find these results useful and inspiring for your future research.

We would like to express our sincere thanks to Steering Committee: James J. (Jong Hyuk) Park (SeoulTech, Korea), Doo-soon Park (SoonChunHyang University, Korea), Han-Chieh Chao (National Ilan University, Taiwan), Yi Pan (GSU, USA and SIAT, China), Vincenzo Loia (University of Salerno, Italy), Stefanos Gritzalis (University of Piraeus, Greece), Byeong-Seok Shin (Inha Univeristy, Korea). Our special thanks go to the program chairs, all program committee members and all the additional reviewers for their valuable efforts in the review process, which helped us to guarantee the highest quality of the selected papers for the conference.

We cordially thank all the authors for their valuable contributions and the other participants of this conference. The conference would not have been possible without their support. Thanks are also due to the many experts who contributed to making the event a success.

World IT Congress 2026
General Chairs

Jungho Kang, Baewha Woman University, Korea
Kim-Kwang Raymond Choo, The University of Texas at San Antonio, USA
Changhao Piao, Chongqing University of Posts and Telecommunications, China
David Camacho, Universidad Politecnica de Madrid Madrid, Spain

Program Chairs' Message from the World IT Congress 2026

Welcome to the 2026 World Congress on Information Technology Applications and Services (World IT Congress 2026) - "Advanced Mobile, Communications, Security, Multimedia, Vehicular, Cloud, IoT, and Computing", which will be held in Jeju, Korea on February 11~13, 2026. This congress will be the most comprehensive conference focused on the various aspects of Advances in IT, Applications, and Services (AITA).

This congress provides an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of computer science. In addition, the conference contains high quality papers which are closely related to the various theories and practical applications in computer science. Furthermore, we expect that this congress and its publications will be a trigger for further related research and technology improvements in this important subject. This congress contains high quality research papers submitted by researchers from all over the world. Each submitted paper was peer-reviewed by reviewers, who are experts in the subject area of the paper. Based on the review results, the program committee accepted papers.

For organizing this congress, the support and help of many people is needed. First, we would like to thank all authors for submitting their papers. We also appreciate the support from program committee members and reviewers who carried out the most difficult work of carefully evaluating the submitted papers.

We would like to give my special thanks to James J. (Jong Hyuk) Park (SeoulTech, Korea), Doo-soon Park (SoonChunHyang University, Korea), Han-Chieh Chao (National Ilan University, Taiwan), Yi Pan (GSU, USA and SIAT, China), Vincenzo Loia (University of Salerno, Italy), Stefanos Gritzalis (University of Piraeus, Greece), Byeong-Seok Shin (Inha Univeristy, Korea) as the Steering Committee of World IT for their strong encouragement and guidance to organize the conference. We would like to thank World IT 2026 General Chairs for their advices to make possible organization of The World IT 2026. We would like to express special thanks to execute members for their timely unlimited support.

World IT Congress 2026
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Ji Su Park, Jeonju University, Korea (Leading Chair)
Le Anh Ngoc, Swinburne University of Technology, Vietnam
Alireza Souri, Islamic Azad University, Iran
Neil Yen, University of Aizu, Japan

Organization

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Young-Sik Jeong, Dongguk University, Korea

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Doo-soon Park, SoonChunHyang University, Korea
Yi Pan, GSU, USA and SIAT, China
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Kim-Kwang Raymond Choo, The University of Texas at San Antonio, USA
Changhao Piao, Chongqing University of Posts and Telecommunications, China
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Le Anh Ngoc, Swinburne University of Technology, Vietnam
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Jin Hyun Kim, Secure Point, Korea
Byoung Soo Koh, DigiCAP, Korea

Invited Speaker

Zero-Trust IoT-Driven Smart Cities: Next-Generation Security through Emerging Technologies

Prof. Sushil Kumar Singh (Postdoc-UK, PhD-SeoulTech)

Associate Professor,
Department of Computer Engineering,
Marwadi University, Rajkot, Gujarat, India
London Metropolitan University, London, United Kingdom

Abstract:

Smart cities are rapidly evolving into complex, interconnected digital ecosystems driven by the large-scale deployment of Internet of Things (IoT) devices, intelligent services, and data-centric decision-making platforms. These systems enable transformative urban services, including smart transportation, energy management, healthcare, public safety, and governance. However, as cities become more connected and autonomous, they also face unprecedented cybersecurity challenges. The expanding scale, heterogeneity, and decentralization of IoT infrastructures significantly increase attack surfaces, making traditional perimeter-based security models inadequate for protecting critical urban assets. This keynote advocates Zero-Trust Security as a foundational paradigm for securing IoT-driven smart cities. Zero Trust operates on the principle that no device, user, application, or network component should be implicitly trusted—whether inside or outside the system boundary. Instead, continuous verification, strong identity management, least-privilege access, real-time monitoring, and adaptive policy enforcement become essential elements of urban digital security.

The session explores how emerging technologies are reshaping next-generation security architectures for smart cities. These include advanced communication networks such as 5G and beyond, edge and fog computing for localized intelligence, AI- and machine learning–driven threat detection, blockchain-enabled decentralized trust management, and quantum-resilient security mechanisms. Together, these technologies enable scalable, resilient, and autonomous security frameworks capable of protecting massive IoT deployments and critical city infrastructure in real time. Beyond technical solutions, the keynote highlights the importance of security-by-design, integrating cybersecurity considerations into the planning, deployment, and governance of smart city systems. It addresses challenges related to data privacy, interoperability, regulatory compliance, and digital sovereignty, emphasizing the need for coordinated collaboration among policymakers, researchers, technology providers, and urban administrators. By aligning Zero-Trust principles with emerging technologies, this keynote presents a strategic vision for building secure, trustworthy, and resilient smart cities. The talk encourages a paradigm shift—from reactive cybersecurity approaches to proactive, intelligence-driven, and trust-centric urban security models—ensuring that future cities are not only smart and connected, but also safe, reliable, and sustainable for generations to come.

Biography:

Dr. Sushil Kumar Singh is an Associate Professor in the Department of Computer Engineering at Marwadi University, Rajkot, Gujarat, India. He completed his Postdoctoral research at London Metropolitan University, London, United Kingdom, under the supervision of Professor Bal Virdee. He earned his Ph.D. from Seoul National University of Science and Technology (SeoulTech), Seoul, South Korea, under the supervision of ProfessorJong Hyuk Park. He received his M.Tech. degree in Computer Science and Engineering from Uttarakhand Technical University, Dehradun, India, and his M.E. degree in Information Technology from Karnataka State University, Mysore, India. Dr. Singh served as the Lab Leader of the UCS Lab in the Department of Computer Science and Engineering at SeoulTech, where he received the Best Lab Leadership Award for the period 2019–2021. He has been recognized among the Top 2% of Scientists worldwide for the years 2022–2023, 2023–2024, and 2024–2025, as per the list compiled by Stanford University and published by Elsevier. With over 15 years of teaching and research experience, Dr. Singh has authored more than ten books, including Computer C Programming, Cyber Security, Big Data Analytics, Mobile Computing, and Secure and Intelligent IoT-Enabled Smart Cities, among others. He has published numerous high-quality research articles in Q1 and top 10% JCR-ranked international journals and conferences.

PROGRAM SCHEDULE FOR WOLRD IT CONGRESS 2026

Day 1, February 11, 2026		
Time	**Min**	**HALL A**
10:10-10:30	20	**WITC 2026 Registration**
10:30-11:50	80	**Session A-1** **WITC 2026** **Chair: Deok Gyu Lee**
11:50-13:00	70	**Lunch Time**
13:00-13:20	20	**HCIS Workshop Registration**
13:20-14:00	40	**Keynote Speech** **Prof. Sushil Kumar Singh** **"Zero-Trust IoT-Driven Smart Cities: Next-Generation Security through Emerging Technologies"** **Chair: Joon-Min Gil**
14:00-14:10	10	**Coffee Break**
14:10-15:50	100	**Session A-2** **WITC 2026& HCIS 2026 Winter Workshop** **Chair: Abir El Azzaoui**
15:50-16:00	10	**Coffee Break**
16:00-17:40	100	**Session A-3** **WITC 2026 & HCIS 2026 Winter Workshop** **Chair:**
17:40-18:30	50	**Break**
18:30-20:00	90	**Banquet** **(Only for Invited Members)**

Day 2, February 12, 2026		
Time	**Min**	**HALL A**
10:00-12:00	120	**Session A-4 (Private)** **SICNS Workshop for NRF Korea - EU**
12:00-13:30	90	**Lunch Time**
13:30-15:30	120	**Organizing Committee Meeting I**
15:30-16:00	30	**Break**
16:00-18:00	120	**Executive Meeting – Organized by World IT Congress 2026**

Day 3, February 13, 2026		
Time	**Min**	**HALL A**
09:00-10:20	80	**Local Arrangement Committee Meeting**
10:20-10:40	20	**Break**
10:40-12:00	80	**Organizing Committee Meeting II**

1. **A paper presentation should be made by one of authors of the paper for A paper presentation should be made by one of authors of the paper for 15 minutes (10 minutes for the presentation itself and 5 minutes for Q/A).**
2. **All speakers of each session should meet the session chair at their room 10 minutes before the session begins.**
3. **Windows 10 laptops running the Adobe Reader and Microsoft Office for paper presentations will be prepared. Please prepare for your presentation.**
4. **For Q&A in the online section, please email the author.**

DETAILED SCHEDULE FOR THE 2026 WORLD CONGRESS ON INFORMATION TECHNOLOGY, APPLICATIONS AND SERVICES (WORLD IT CONGRESS 2026)

Day 1, Feb. 11, 2026 (Wednesday)

10:10-10:30 **WITC 2026 Registration**

10:30-11:50 **Session A-1 WITC 2026 & HCIS 2026 Winter Workshop**
(Chair: Deok Gyu Lee)

1. **A Comprehensive Survey of Zero-Shot Learning and Generative AI for Unknown and Zero-Day Cyber Threat Detection**
   Jeremiah Sekione Reward, Tae Hwan Lee, Borhan Uddin, Jong Hyuk Park
2. **Zero-Shot Learning–Based Cyber Threat Detection: A Survey of Generative AI Models and Techniques**
   Azhar Abbas, Soo Min Chae, Hussein Rajab Mkwazu, Jong Hyuk Park
3. **Zero-Shot Learning and Generative AI for Advanced Cyber Threat Detection Systems**
   Na Yeong Kim, Abir El Azzaoui, Ji Su Pakr, Jungho Kang, Jong Hyuk Park
4. **Zero-Shot and Generative AI Approaches for Cyber Threat Detection: A Survey and Future Perspectives**
   Borhan Uddin, Jeremiah Sekione Reward, Azhar Abbas, Tae Hwan Lee, Jong Hyuk Park
5. **Adaptive Cyber Threat Detection via Zero-Shot Learning and Generative Artificial Intelligence**
   Hussein Rajab Mkwazu, Soo Min Chae, Abir El Azzaoui, Jong Hyuk Park

11:50-13:00 **Lunch Time**

13:00-13:20 **HCIS Workshop Registration**

13:20-14:00 **Invited Speaker**
(Chair: Joon-Min Gil)

Prof. Sushil Kumar Singh
"Zero-Trust IoT-Driven Smart Cities: Next-Generation Security through Emerging Technologies"
Department of Computer Engineering,
Marwadi University, Rajkot, Gujarat, India

14:00-14:10 Coffee Break

14:10-15:50 Session A-2 WITC 2026 & HCIS 2026 Winter Workshop
(Chair: Abir El Azzaoui)

1. **Beyond Accuracy: A Human-Centric Second-order Factor Model of Personalization Quality, Trust, and Continuance Intention in E-commerce**
   Seungjoon Lee
2. **Sentence-Level Classification of R&D Reports**
   Yeji Choi, Hangbae Chang, Jung A Lee
3. **NL2MCP: Secure Execution for NLIDBs and Prompt Injection Robustness Evaluation**
   WONBAE KIM, Hee-Kyong Yoo, Nam-Mee Moon
4. **Adaptive ToR: Complexity-Aware Dynamic Tree-of-Retrieval for Efficient Multi-Intent NLU**
   Hee-Kyong Yoo, WONBAE KIM, Nam-Mee Moon
5. **A Survey on Zero-Shot Learning and Generative AI for Advanced Cyber Threat Detection**
   Byung Hyun Jo, Na Yeong Kim, Abir EL Azzaoui, Jong Hyuk Park
6. **Integrity-Preserving Framework for Wireless and Cloud-Assisted Mobile Networks Leveraging AI, Blockchain, and Post-Quantum Cryptography**
   ARIF TUBA, Na Yeong Kim, Tae hwan Lee, Jong Hyuk Park

15:50-16:00 Coffee Break

16:00-17:40 Session A-3 HCIS 2026 Winter Workshop
(Chair: Kwangil Hwang)

1. **Prediction Uncertainty-aware Proactive Horizontal Autoscaling on Cloud-native Computing**
   Yongdeok Jeon, Byeonghui Jeong, Seungyeon Baek, Young-Sik Jeong
2. **Lightweight Music Captioning for Resource-constrained Environments: A Quantization-based Approach**
   Moonsik Chung, Nammee Moon
3. **A Hardware-Accelerated Secure Gateway for Industrial IoT: Integrating Lightweight Cryptography with Zero-Overhead Scheduling on FPGA**
   Sangook Moon
4. **Design of a C2PA-Based Image Provenance Tracking and Verification Framework**
   Suhong Shin, Byoung-Soo Koh, Hye-Young Kim
5. **Mitigating Combinatorial Explosion in CSPs via Disjoint Layer Decomposition**
   Eun-Kyung Jo, Byeong-Seok Shin
6. **Skeleton-Based Multimodal Inference for Driver Pedal Behavior in Sudden Unintended Acceleration Verification on Edge AI**
   HeeSeok Choi, Joon-Min Gil

17:40-18:30 Break

18:30-20:00 Banquet
(Only for Invited Members)

Day 2, Feb. 12, 2026 (Thursday)

10:00-12:00 **Session A-4 Korea-EU Workshop (Private)**

NRF - SICNS Workshop for Korea - EU

12:00-13:00 **Lunch Time**

13:00-15:00 **Organizing Committee Meeting I**

15:00-15:30 **Coffee Break**

15:30-17:30 **Executive Meeting – Organized by World IT Congress 2026 & HCIS 2026 Winter Workoshp**

Day 3, Feb. 13, 2026 (Friday)

09:00-10:20 **Local Arrangement Committee Meeting**

10:20-10:40 **Coffee Break**

10:40-12:00 **Organizing Committee Meeting II**

Conference Venue

Jeju National University Ara Campus

411, 102 Jeju Daehak-ro, Jeju-si, Jeju Special Self-Governing Province,
College of Engineering Building 4, Jeju National University, Korea
TEL: 064)754-2114
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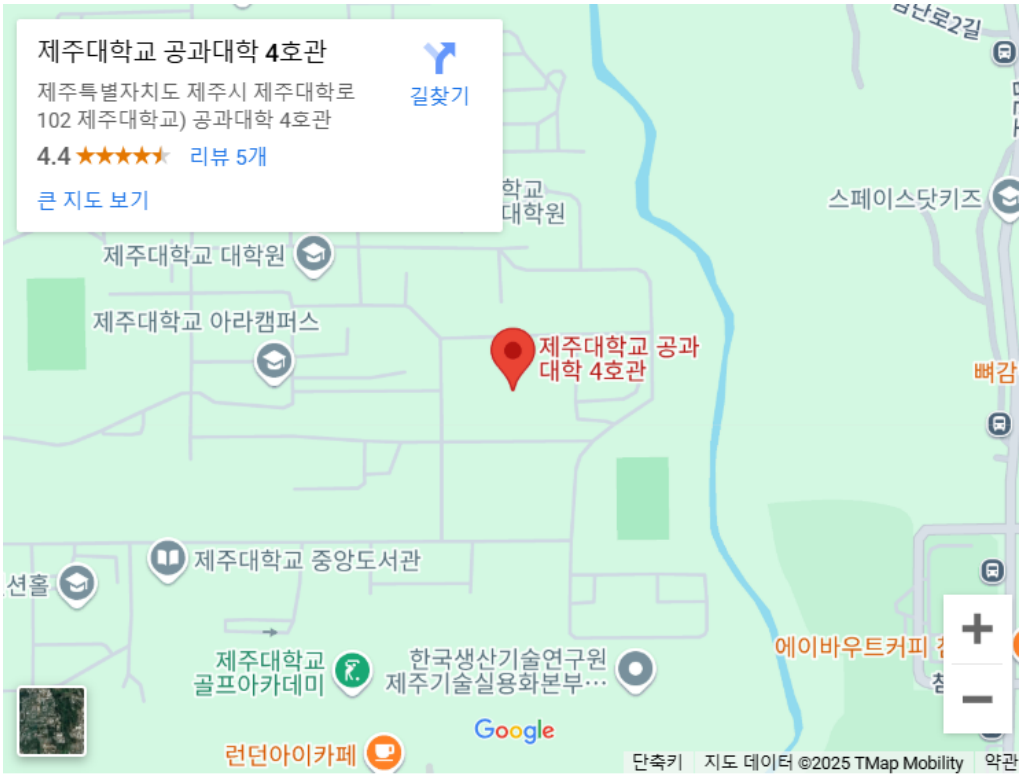

How to get into the Jeju National University Ara Campus, Korea

- ***Jeju International Airport -> Jeju National University Ara Campus***
  - Boarding at Jeju International Airport (Jeju-bound) stop: No transfer (takes about 1 hour)
    - 365, 3003 (late night) -> Get off at Jeju National University stop
  - Boarding at Jeju International Airport (Pyoseon, Seongsan, Namwon) stop: 1 transfer (takes about 40-50 minutes)
    - 112, 122, 132 -> Transfer at Jeju National University Hospital stop -> 270, 341, 342, 345, 346, 351, 352, 355, 356, 360, 365, 366 (weekdays), 446, 447, 455, 477, 3003 (late night) -> Get off at Jeju National University stop

- ***Jeju City Hall -> Jeju National University Ara Campus***
  - Get on at Jeju City Hall stop: No transfer (takes about 25 minutes)
    - 341, 342, 351, 352, 355, 360, 365, 446, 447, 455, 3003 (late night) -> Get off at Jeju National University stop