Qingdao, China >>>
April 10-12, 2026

2026 IEEE 9th World Conference on
Computing and Communication Technologies

WCCCT 2026 9th

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Special Session 4

Smart Materials 360°: AI-Enabled Solutions from RF to Civil Structures

2026 IEEE 9th World Conference on Computing and Communication Technologies (WCCCT) will be held in Qingdao, China during April 10-12, 2026, sponsored by Ocean University of China and IEEE, co-sponsored by IEEE Qingdao AP/MTT/COM Joint Chapter, Qingdao University of Technology, Shandong Normal University, Shenzhen University, Sichuan Normal University, Xihua University, Warsaw University of Technology, Guangzhou Institute of Science and Technology, and Gannan Normal University, and technically supported by University of Haute Alsace, Okayama University, Qinghai Institute of Technology, and Key Laboratory of Wireless Sensor Network in University of Sichuan Province, Sichuan Normal University.

The convergence of advanced materials science and artificial intelligence is dissolving long-standing performance limits across all engineering domains—from radio-frequency electronics to civil, aerospace, biomedical, and energy systems. By coupling AI-driven optimization with atomic-scale design, entirely new figures of merit—mechanical flexibility, environmental resiliency, cognitive functionality—are now within reach. This Special Session unites chemists, physicists, materials scientists, data scientists, and engineers to co-create a fast-track roadmap from laboratory discovery to cross-disciplinary deployment.

Contributions are invited across the full value chain, including but not limited to:
• Core–shell conductive polymers for conformal, body-centric RF and bio-electronic systems.
• Earth-abundant kesterite (CZTSSe) thin films for sustainable microwave absorbers, photovoltaics, and hybrid energy-harvesting surfaces.
• Ultra-thin composite membranes enabling reconfigurable apertures, pressure-tunable metamaterials, and lightweight structural composites.
• Hybrid inorganic–organic architectures for low-loss, high-power microwave devices, flexible power electronics, and solid-state batteries.
• AI-accelerated optimization, inverse design, and autonomous experimentation for materials-centric engineering solutions.
• Multifunctional antennas, sensors, actuators, and energy devices that simultaneously communicate, harvest, sense, and self-adapt in any engineering context.

We welcome both theoretical results and experimental validations that close the loop between materials synthesis, AI-guided design, and system-level performance across all engineering fields.

Please choose Special Session 4 to submit. Submission Link:
https://www.zmeeting.org/submission/wccct2026

More details about Special Session 4, Please view:
https://www.wccct.org/ss_4.html

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Special Session 4 Chair

Prof. Kwok L. Chung
Guangzhou Institute of Science and Technology, China

Research Areas: Kesterites (CZTSSe), Microwave Antennas and Sensors

Co-Chairs

Senior Researcher Shiquan Wang
Nanyang Technological University, Singapore

Research Areas: Electromagnetic Sensors, Antenna Technologies, Metamaterials

Assoc. Prof. Xingye Chen
Guangzhou Institute of Science and Technology, China

Research Areas: Thin Film Solar Cells

Publication

IEEE   Submitted manuscripts will be peer reviewed by the conference scientific committees. Accepted and presented papers will be published in **WCCCT2026 Conference Proceedings** by **IEEE** after registration and presentation. The proceedings will be submitted for inclusion into **IEEE Xplore** and indexed by **Ei Compendex & Scopus**.

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Best Paper Awards
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