



IEEE CEFC 2024

2 - 5 June 2024 | ICC, Jeju, Korea



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<http://cefc2024.com>

Welcome to CEFC 2024

The 21st Biennial IEEE Conference on Electromagnetic Field Computation (IEEE CEFC 2024) will be held in Jeju, Korea, June 2 – 5, 2024. This conference will be a full face-to-face one.

IEEE CEFC is one of the most important scientific and technical events in computational electromagnetics and related fields. Its aim is to present the latest developments in modeling and simulation methodologies for the analysis of electromagnetic fields and wave interactions. Application emphasis is on computer-aided design of low and high frequency devices, components, and systems.

Scientists and engineers worldwide are invited to submit original contributions in areas related to Static and Quasi-static Fields, Wave Propagation, Material Modeling, Coupled Problems, Numerical Techniques, Optimization and Design, Software Methodology, Nanomagnetism, Nanophotonics, Bioelectric Field Computation as well as Devices, Applications, and education.

The conference will feature oral and poster presentations.

All accepted 2-page Digests will be published as part of the conference records in IEEE Xplore Digital Library. Authors are also invited to submit an extended 4-page version for peer review. Selected papers, based on reviews, will be published either on IEEE Transactions on Magnetics or included in IEEE Xplore Digital Library as conference proceedings. No additional fee is requested in either case. Full papers will need to be submitted at IEEE Manuscript Central site as authors of accepted Digests will be directed.

Venue

The conference will be held in Jeju Island, Korea, which is a popular tourist destination among domestic and international travelers for its beautiful and pristine natural scenery. It is a unique place worldwide, holding the honors of the natural science area such as UNESCO World Biosphere Reserve [2002], UNESCO World Natural Heritage Site [2007] and UNESCO World Geoparks Network [2010]. Jeju Island also consists of all elements for global natural sight theme, including island, volcano, waterfall, beaches, national park, caves, and forest.

The venue for the conference, ICC JEJU, is located in the Jungmun Tourist Complex with the cobalt-blue Northern Pacific stretching on the south and towering Mt. Hallasan in the north.

Important Dates:

Two-page Digest Due: ~~December 12, 2023~~ **December 19, 2023**

Notification of Acceptance: **February 7, 2024**

Early Registration Due: **March 24, 2024**

Full Paper Due: **June 14, 2024(No Extension)** for IEEE Transactions on Magnetics Review

**Local Organizing
Committee**

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cefc2024@cefc2024.com

Topic List:

Papers are solicited in the following topics.

1. Static and Quasi-static Fields

Electrostatics, Magnetostatics, Eddy Currents, Numerical Methods, Others.

2. Wave Propagation

Scattering, Radiation, Time and Frequency Domain, Microwaves, Antennas, Numerical Methods, Radiative Transfer, Electromagnetic Compatibility, Others.

3. Material Modeling

Superconducting Materials, Composite Materials, Hysteresis and Anisotropy, Permanent Magnets, Magnetostrictive or Piezoelectric Materials, Microwave Absorbing Materials, Ab-initio Quantum Mechanical Modeling, Others.

4. Coupled Problems:

Mechanical Problems, Electric Circuits, Thermal Problems, Micromagnetics, Others.

5. Numerical Techniques

Mesh Generation and Adaptive Meshing, Solving Linear Systems, Preconditioning, Eigenvalue Problems, Nonlinear Problems, Near Field Modeling, Parallel and Distributed Computing, GPU, Matrix Compression Technique, Model Order Reduction, Multiscale Modeling, Others.

6. Optimization and Design

Robust Optimization under Uncertainty, Stochastic and Hybrid Techniques, Multi-Objective and Multi-Level Optimization, Artificial Intelligence and Expert Systems, Inverse Problems, Sensitivity Analysis, Deterministic Methods, Neural Networks, Others.

7. Software Methodology

Software Design, Software Engineering and Software Quality, Computer Graphics and Data Representation, Human-Machine Interface, Computer Aided Engineering in Classroom, Others.

8. Nanomagnetism

Spintronics, MEMS/NEMS, Nanomagnetism Modeling, Magnetic Recording, MRAM, Ab-initio Magnetic Nanomagnetism Calculating, Others.

9. Nanophotonics

Adaptive Optics, Optical Detectors, Electro-Optics, Near Field Modeling, Others.

10. Bioelectromagnetic Fields Computation

Numerical Approximation, Large Scale Computing, Geometric Modeling and Scientific Visualization (Human Body), Integrated Software Environments, Biomedical Signal Processing, Constrained Optimization, Others.

11. Devices and Applications

Electric Machines and Drives, Nondestructive Testing, Induction Heating, Power Electronics Devices, Wave Guides, Microwaves Resonators, Micro/Nanosystems, Biomedical Applications, Charged Particles Trajectories, Accelerators, Electromagnetic Launchers, Fusion Machines, Electromagnetic Compatibility, Magnetic Recording, Microsystems, Superconducting Applications, Others.

12. Education