

# ICGNC 2024

2024 International Conference on Guidance, Navigation and Control  
August 9–11, 2024, Changsha China  
<http://icgnc.buaa.edu.cn>



## Call for Papers

International Conference on Guidance, Navigation and Control (ICGNC) is a biennial event, which is also one of the leading events in Guidance, Navigation and Control (GNC). It provides a forum for scientists and engineers over the world to present their new theoretical results and techniques in the fields of GNC. The conference consists of chief designer/ model teacher/ young scientist forums, plenary talks, panel discussions, invited sessions, oral sessions and poster sessions for academic exchanges.

ICGNC 2024 will be held in Changsha on August 9–11, 2024, following the successes of previous ten events. It is sponsored by State Key Laboratory of Virtual Reality Technology and Systems, Technical Committee on Guidance, Navigation and Control (TCGNC), Chinese Society of Aeronautics and Astronautics (CSAA), and Science and Technology on Aircraft Control Laboratory. It is technically co-sponsored by State Key Laboratory of Virtual Reality Technology, Technical Committee on Navigation, Guidance and Control (TCNGC), Technical Committee on Unmanned Aerial Systems Autonomous Control (TCUASAC), Technical Committee on Control Theory (TCCT), Technical Committee on Robotics Intelligence (TCRI), and Chinese Association of Automation (CAA). ICGNC 2024 is organized by National University of Defense Technology.

The conference papers in English presented at the ICGNC 2024 will be published by Springer-Nature in *Lecture Notes in Electrical Engineering* (indexed by EI-Compendex). The extended version of some excellent English papers will be published by "Guidance, Navigation and Control". The accepted Chinese papers will be published by some famous Journals (including "SCIENTIA SINICA Technologica", "SCIENTIA SINICA Informationis", "Acta Aeronautica et Astronautica Sinica", "Chinese Journal of Engineering", "Systems Engineering and Electronics", and "Journal of Beijing University of Aeronautics and Astronautics"). We sincerely welcome our colleagues worldwide to join us for this conference.

### The topics of this conference including but not limited to

#### A Survey and Discussion

- A1 Development Trends of Guidance, Navigation, and Control
- A2 Informatization of Movement Objects Applied in Aviation, Aerospace, Marine and Land

#### B Control Theory and Analysis

- B1 Robust/Nonlinear/Optimal/Multi-Variables/Adaptive Control
- B2 Estimation/Filtering and System Identification
- B3 Fault Diagnosis and Fault Tolerant Control
- B4 New Analysis and Multidisciplinary Optimization Technique

#### C Intelligent Computing, Communication and Control

- C1 Nature-Inspired Computing
- C2 Artificial Intelligence and Machine Learning
- C3 Distributed and Parallel Computing
- C4 Pattern Recognition and Intelligent Perception
- C5 Deep Learning and Big Data
- C6 Hybrid System Modeling and Control

#### D New Methods of Navigation, Estimation and Tracking

- D1 Optimization and Estimation Theory
- D2 Nonlinear Filtering and Smoothing
- D3 Visual Navigation
- D4 Integrated Navigation
- D5 Integrated Detection and Tracking

#### E Guidance, Navigation and Control of Aircraft

- E1 Stabilization and Autopilot
- E2 Large Angle-of-Attack and Wide Envelop Flight Control
- E3 Flight Quality and Man-Machine Environment
- E4 Situation Awareness and Decision Support
- E5 Structure Control and Flutter Suppression Control

#### F Guidance, Navigation and Control of Spacecraft

- F1 Attitude and Orbit Determination and Control
- F2 Power Control
- F3 Task Load Control
- F4 Remote Measurement and Control

#### G Guidance, Navigation and Control of Marine Vehicle

- G1 Intelligent Perception of Marine Vehicle
- G2 Precise Guidance of Marine Vehicle
- G3 Deep Sea Positioning and Navigation
- G4 Intelligent Instrument for Marine Vehicle
- G5 Autonomous Control of Marine Vehicle

#### H Guidance, Navigation and Control of Other Moving Objects

- H1 Missile
- H2 Aerospace Vehicle and Aerostat
- H3 Miniature Moving Object
- H4 Moving Objects on Land

#### I Control of Multiple Moving Objects

- I1 Coordination Control of Multiple Moving Object
- I2 Multi-Agent Coordination Perception and Decision
- I3 Coordination Task Allocation and Trajectory Optimization
- I4 Assembly/Cluster Behavior and Control
- I5 Formation and Reconfiguration
- I6 New Technology for GNC Concept in Air Traffic Management

#### J Man and Autonomous Unmanned Systems

- J1 Unmanned Systems Autonomous Control
- J2 Human-machine Hybrid Intelligence
- J3 Intelligent Control
- J4 Tasks and Trajectory Planning
- J5 Real-time Re-Planning Task
- J6 Flight Safety
- J7 Collaborative Distributed Decision Making
- J8 Interconnection

#### K Sensor Systems for Guidance, Navigation and Control

- K1 Advanced Monitoring and Control
- K2 Multi-sensor Information Fusion
- K3 Smart Sensors
- K4 Data Chaining

#### L Advanced Design / Simulation Software

- L1 Simulation Modeling and Simulation Algorithm
- L2 Artificial Life and Intelligent Simulation
- L3 Digital Twin Technology and Platform
- L4 Virtual Reality and Virtual Prototyping
- L5 System Reliability, Maintainability, Safety and Supportability
- L6 System Airworthiness Design
- L7 Specification and Standard

#### M Guidance, Navigation and Control Education

- M1 Educational Innovation Platform
- M2 Educational Innovation Pattern
- M3 Educational Innovation Practice

#### Conference Language:

English / Chinese

#### Important dates

Paper submission deadline: April 10, 2024

Paper acceptance notification date: April 30, 2024

Final paper submission deadline: May 26, 2024

Registration deadline: May 26, 2024

#### Secretariat of the Program Committee

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