

Fusion 2027

Buffalo-Niagara Falls, NY - USA

June 28 - July 2, 2027

CALL FOR PAPERS



FUSION 2027 invites original contributions spanning the full spectrum of information fusion, encompassing all levels of the Joint Director of Laboratories (JDL) Information Fusion Model, from signal and feature processing through object assessment, situation understanding, decision support, mission management, and adaptive sensing, as well as emerging paradigms integrating sensing, learning, reasoning, and autonomous decision-making. The conference welcomes theoretical advances, algorithmic innovations, system architectures, experimental studies, and transformative real-world applications. Contributions spanning multiple JDL levels and demonstrating end-to-end information fusion capabilities are especially encouraged. Papers must be positioned and relevant to data/information fusion.

Foundations of Information Fusion

Bayesian and statistical inference; uncertainty representation and reasoning; information theory; belief function theory; possibility, fuzzy set, and rough set theories; random sets; knowledge representation and ontologies/semantics; causal reasoning; information quality, confidence, and trust; and graphical models.

Fusion Algorithms and Intelligent Systems

Signal-, feature-, object-, and decision-level fusion; nonlinear filtering; tracking, estimation, prediction, and data association; multimodal sensing and perception; distributed and decentralized fusion; sensor management and adaptive sensing; explainable, trustworthy, and robust AI; and recognition, classification, and identification.

Situation Understanding, Decision Support, and Autonomy

Situation and impact assessment; anomaly and change detection; intent inference and threat assessment; context-aware reasoning; decision intelligence; mission planning and resource management; cognitive autonomy and autonomous decision-making; and behavioral analysis.

Applications of Information Fusion

Aeronautics, hypersonic, and space systems; autonomous vehicles and robotics; defense, security, and intelligence systems; intelligent transportation and smart cities; environmental monitoring and geospatial systems; healthcare, bioinformatics, and e-health; industrial systems and emerging applications; and imaging science.

Emerging Fusion Paradigms

Machine learning and artificial intelligence for fusion; large multimodal and foundation models; agentic AI; digital twins and cognitive digital engineering; federated and privacy-preserving learning; and next-generation fusion architectures.

Evaluation and Systems

Performance evaluation and benchmarking; metrics for fusion evaluation; system architectures and integration; and human-machine interaction and decision support.

SUBMIT YOUR PAPER AT WWW.FUSION2027.ORG

SUBMISSION DEADLINES:

 **Full Papers: February 14, 2027**  **Notification of Acceptance: April 10, 2027**  **Camera Ready: May 16, 2027**

