The Nano Communication Networks Journal is an international, archival and multi-disciplinary journal providing a publication vehicle for complete coverage of all topics of interest to those involved in all aspects of nanoscale communication and networking. Theoretical research contributions presenting new techniques, concepts or analyses; applied contributions reporting on experiences and experiments; and tutorial and survey manuscripts are published.

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- Passive Molecular Communication systems, including short-range molecular diffusion, guided molecular diffusion (e.g. circulatory systems communications, microfluidic communications), ion signaling, and pheromone communications.
- Active Molecular Communication systems, such as molecular motors, bacteria-based nanonetworks.
- Brain networks, neural circuits and nervous systems communications.
- Synthetic biology for Molecular Communication development.

Electromagnetic Nanoscale Communication
- Plasmonic and nanophotonic devices for THz and optical communication based on nanomaterials (e.g., graphene) and metamaterials, including compact signal sources, modulators/demodulators, detectors and antennas and antenna arrays.
- Ultra-broadband and Terahertz communications, with applications at the nano-, micro- and macro-scales.
- Nanophotonic wired and wireless communications at infra-red, visible and ultra-violet spectrum ranges.

Other nanoscale communication paradigms
- Nano Communication for bio-therapeutic devices.
- Quantum communications.
- Ultrasonic communications.
Nano communication engineering and networking
- Architectures and systems for Nano Communications.
- Propagation and channel modeling for Nano Communications.
- Information Theory of Nano Communications.
- Communication protocols for Nano networks.
- Security in Nano Communications.
- Energy models for Nano Communications.
- Software-Defined Nanonetworks.

Nano Communication experimental and simulation platforms
- Tools for modeling and simulating Nano Communication Networks.
- Wet lab experimental platforms for Molecular Communications.
- New fabrication and assembly techniques for Electromagnetic nanoscale devices.
- Synthetic Biology toolsets for engineering Molecular Communications (e.g. Openwetware, CRISPR).

Applications of Nano Communications and networks
- Internet of Nano Things and the Internet of Bio-Nano Things.
- Network on Chip including RF and optical interconnects, as well as network architectures and topologies.
- Nano-Sensor and Nano-Actuator Networks.
- Nanomedicine applications: disease localization, targeted drug delivery, tissue engineering.

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INTRODUCTION

Nano Communication Networks will be committed to the very timely publication of very high-quality, peer-reviewed, original papers that advance the state-of-the-art and applications of all aspects of nano-scale networking and communications. Survey papers reviewing the state-of-the-art of timely topics will also be considered.

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16. Applications of Nano-Networks

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