IEEE Journal on Selected Areas in Information Theory
Special Issue on Information Theoretic Foundations of Future Communication Systems

Information theory, starting with Shannon's groundbreaking work, has fundamentally shaped the way communication systems are designed and operated. Information theoretic principles form the underpinnings of modern wireless and wired networks. This special issue will focus on exploring how new advances in information theory can impact future communication systems. Next generation wireless networks will incorporate a large number of devices, dense and intelligent antenna arrays, and operate in higher frequencies. New task-aware communication modalities, such as sensing, learning and inference, will accelerate the shift from human-to-human to machine-to-machine type communications. Accordingly, communication systems will be designed with capacity, latency and accuracy in mind. Increasingly complex communication tasks will need to be carried out on devices with energy and hardware constraints, but will also be able to take advantage of in-network storage and computation.

Authors are encouraged to submit their work on topics including, but not limited to:
- Communication for learning, inference, sensing
- Communication in high frequency (mmWave, THz, optical) bands
- Communication models and analysis emerging from new protocol requirements
- Communication models and analysis that account for the advances in physics and electromagnetism
- Energy-efficient communication, energy harvesting
- Finite blocklength information theory
- Fundamental limits of communication-computing convergence
- Hardware/complexity constrained communications
- Latency and age of information
- Multi-user information theory, including uncoordinated massive random access

Important Dates:
Manuscript Due: September 1, 2021
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Submission Guidelines:
Submitted papers should be of sufficient length and detail for review by experts in the field. Prospective authors must follow the *IEEE Journal on Selected Areas in Information Theory* manuscript submission guidelines in JSAIT Author Information webpage. All papers should be submitted through https://mc.manuscriptcentral.com/jsait-ieee