Call For Papers

IEEE ISIT 2026 Workshop, Guangzhou, China
Workshop on Coding for New Applications

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Important Dates

♦ Paper submission deadline: 7 April 2026 (firm)
♦ Notification of acceptance: 21 April 2026
♦ Final manuscripts: 28 April 2026
♦ Workshop date: 3 July 2026

Scope

Since Shannon's seminal work, coding theory has been a central pillar of information theory and has powered generations of communication systems. Looking ahead, information processing and communication is moving beyond the classical AWGN-centric paradigm and is increasingly shaped by application-driven requirements. Emerging scenarios call for advances in coding theory and coded modulation across: i) **advanced waveforms** such as OTFS, FTN, ODDM, and AFDM exploit delay–Doppler or time–frequency diversity but require waveform-aware code design and decoding; ii) **integrated sensing and communication (ISAC)** systems call for coding strategies that jointly guarantee reliable data delivery and accurate sensing/localization, motivating new trade-off analyses and unified frameworks; iii) **coded computing** underpins distributed learning, large-scale data processing, and storage by providing straggler resilience, fault tolerance, and low-latency operation; iv) **multi-user access**, including NOMA, RSMA, and massive random access, requires both new multi-user code constructions and the adaptation of classical single-user codes to joint detection/decoding; v) **AI-native systems** demand information-theoretic and coding tools for compression, efficient/robust training, and interpretability.

Topics

We seek original completed and unpublished work not currently under review by any other journal/magazine/conference. Topics of interest include, but are not limited to:

- **Information-theoretic limits and performance analysis** in emerging application environments
- **Coding theory** for new application domains
- **Code constructions and decoding algorithms** tailored to new waveform designs, and joint optimization of waveform and coding strategies
- **Coding for integrated communication, sensing, and localization**, including trade-off analysis and unified design frameworks
- **Coded computing** for distributed learning, data storage, and large-scale computation
- **Coding for multi-user access scenarios**, encompassing both dedicated multi-user code designs (e.g., for NOMA, RSMA, massive random access) and the adaptation of single-user codes to multi-user detection and joint decoding frameworks
- **Low-complexity decoding** for practical implementation under latency, memory, and power constraints
- **Near-ML decoding** for diverse short codes under application-driven constraints
- **Coding** for energy-efficient, secure, and privacy-preserving communications
- **Compression and error-correcting codes** for machine learning (data/representation compression and robust training/aggregation)

Workshop website: https://hengyuanxv.github.io/isit2026-workshop/