IEEE Quantum Week features exhibits, tutorials, workshops, technical papers, posters, panels, and Birds-of-Feather (boF) sessions on the following topics including but not limited to:

* **Quantum Computing** — Quantum utility; quantum advantage; quantum programming; quantum platforms, transpilers & tools; hybrid quantum-classical computing; hybrid quantum-classical systems; HPC-quantum systems; adiabatic quantum computation & quantum annealing; photonic quantum computing; quantum tensor networks; quantum error-correction and mitigation; fault-tolerant quantum computing; resource estimation, quantum control

* **Quantum Systems Engineering** — Quantum computers; qubit design & control; NISQ hardware; superconducting, trapped-ion, silicon qubits & technologies; quantum dots; photonics technologies; neutral atoms; connectivity & topology; microwave techniques; cryogenics & packaging; quantum error correction; checking quantum computers; standards; hardware-software co-design
* **Quantum Applications** — Applications; application tools and generators; simulations of chemical, biological & physical systems; quantum chemistry, materials; Hamiltonian dynamics; optimization problems—transportation, supply chain & logistics; AI & decision making; quantum machine learning; medicine & precision health; quantum genomics; quantum finance, services & portfolio management; manufacturing & mining
* **Quantum Algorithms & Information** — Quantum algorithms; quantum information science (QIS); NISQ algorithms; algorithms & complexity; theoretical & empirical algorithm analysis; adiabatic & annealing algorithms; Hamiltonian dynamics; variational techniques; optimization techniques; quantum search
* **Quantum Systems Software** — Full Quantum software stack, quantum simulators, quantum programming, quantum development kits (QDKs), tools, compilers, workflows, quantum languages and intermediate languages (QIRs), transpilers, profilers, libraries, infrastructure; dynamic circuits, circuit weaveing; quantum control software; benchmarks
* **Quantum Photonics & Optics** — Quantum photonic information science and technology; quantum computing with photonic systems; photonic quantum computing & simulation; quantum entanglement and teleportation; photonic quantum computers; Silicon photonic devices; photonics-based qubit technologies; integrated quantum photonics; photonic technologies; quantum photonics devices; silicon photonics; optical quantum communications theory; optical coherence; optical quantum computing; photon sources and detectors; quantum sensing and metrology
* **Quantum Machine Learning (QML)** — Quantum algorithms for machine learning tasks, AI-assisted quantum information science, quantum-enhanced machine learning, quantum-inspired models and machine learning, quantum Boltzmann, machines, quantum neural networks (QNNs), quantum support vector machines (QSVMs), quantum generative adversarial networks (QGANs), quantum clustering and classification, quantum state tomography, QML software and libraries, QML benchmarks
* **Quantum Generative AI** — Synergy of quantum computing and generative AI, generative AI for quantum computing and technologies, quantum computing for generative AI, new use cases for quantum generative AI, drug discovery, quantum data generation for generative AI, intelligent resource allocation, quantum neural networks (QNNs), quantum Boltzmann machines (QBMs), and quantum natural gradient descent
* **Quantum Software Engineering** — Quantum software development; quantum systems engineering; quantum workflows for application stacks; hardware-software co-design; quantum simulators; quantum compilers, fault-tolerant computing & error correction, quantum accelerators; quantum assurance, testing, validation & verification; quantum software lifecycle

* **Distributed Quantum Computing** — Quantum interconnects, quantum parallelization, decomposition of quantum problems, partitioning of quantum algorithms, compilation & transpilation, intermediate representations, quantum internet, networks and teleportation
* **Quantum Communications & Cryptography** — Communications theory; quantum networks; quantum internet; quantum communications technologies; quantum cryptography; quantum key distribution (QKD); post-quantum cryptography; quantum signal processing; quantum error correction & mitigation; quantum security & privacy; secure quantum computing; privacy-preserving quantum protocols
* **Quantum Sensing & Metrology** — Quantum measures & benchmarks; quantum volume & fidelity; quantum entanglement & squeezing; gate & measurement errors; connectivity & topology; entanglement-based remote sensing; quantum error correction; standards
* **Quantum Education & Training** — Quantum entrepreneurship, nurturing startups; quantum workforce & champion development; quantum capability building; quantum champions; K-12, undergraduate & graduate curricula & courses in quantum computing, information science, algorithms, hardware technologies, applications; quantum games; advancements in quantum standards; quantum teachers training; reports on quantum summer schools; quantum ecosystem. The collocated conference QSEEC is dedicated to quantum education topics.