TC-6—Technical Committee on Emerging Technologies in Measurement: Opening the Doors to Our Measurement Future

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This technical committee is serving as incubator to nurture emerging technologies and application areas which are relevant to the field of instrumentation and measurement science, methodologies, technologies, and systems.

In the past years, several areas have been explored, technical meetings (including special sessions in I2MTC, the major conference of our Society, and workshops) have been organized to broaden the analysis and discussion, and related communities have been aggregated in our Society. The committee organized special sessions also in other IEEE conferences to attract attention on the specific areas in incubation and promote the instrumentation and measurement principles, methods, and technologies in other communities. Finally, the committee organized special issues in the *IEEE Transactions on Instrumentation and Measurement*, in our *I&M Magazine*, and in other journals on the emerging areas. These efforts resulted in some technical committees in our Society, like Intelligent Measurement Systems and Fault Tolerant Measurement Systems. In addition, the TC-6 inspired also the creation of other groups and technical committees.

The TC-6 has been recently started focusing on measurement for autonomous vehicles and quantum computing technologies. Autonomous vehicles (such as those that fly or are underwater) have become a widespread and affordable tool for many sensing and measurement applications (such as inspection and testing of infrastructure, environmental monitoring and mariculture or agriculture), combining time and spatial coverage and accessibility unattainable with other technologies. A new generation of rovers are engaged in the space missions. There is a demand for development of new and advanced instruments as well as their calibration and testing. Instruments for astronomical observations measuring the Earth's atmosphere and telescope throughput are subject of interdisciplinary research and development activities towards accurate photometric measurements.

For quantum technologies, TC-6 started studying to determine the main technical areas in which the experience and expertise in our measurement community could be useful for supporting more efficiently the development and implementation of the quantum-based systems. Recently, there have been breakthroughs in accurate measurement of atomic qubit states that is a key step in the development of quantum computers.

If you are interested in one of these areas, as well as in proposing new emerging topics from the technological point of view, or are involved in an application area which is not already covered by other technical committees of our Society, you are warmly encouraged to contact us and work with TC-6 for the benefit of our scientific and professional community! Looking forward to hearing from you.

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