

IEEE Transactions on Instrumentation and Measurement

Special Issue on “Biometric Instrumentation and Measurement”

Biometrics is a growing and important applications area receiving significant interest as a result of the criticality and the social impact of its applications. In addition, the increasing worldwide interest in security makes biometrics even more valuable and desirable, from many perspectives including its theory, technologies, design methodologies, and applications. The constituencies that may benefit from this ever growing field include academia, industry, government, and the general public.

Biometrics is a narrow scientific and technological field, which is highly interdisciplinary since it encompasses various aspects of several different disciplines (e.g., physiology, biology, medicine, psychology, sociology, chemistry, physics, material sciences, computer science, computer engineering, electronics, system automation, telecommunications, and economics). Interdisciplinary and synergistic interactions among these various disciplines are key aspects of this area. To create a biometric system various issues need to be studied in a comprehensive and integrated way: from sensing to measurement procedures, from signal analysis and interpretation to quality assessment, from feature extraction to classification and analysis, from knowledge creation to extraction, and much more. Integration and cooperative combination are other key aspects of biometrics applications.

This special issue is focused on publishing original papers that address instrumentation and measurement aspects of the design, implementation and applications of biometrics. Research areas with relevance to this special issue would therefore include, but are not limited to, the following fields:

- Biometrics sensors
- Measurement procedures and systems for biometric applications
- Distributed biometric measurement systems
- Biometric sensor networks
- Multi-sensor multi-modal signal and image analysis for biometric applications
- Biometric sensor data fusion
- Biometric sensor features extraction
- Adaptable flexible biometric sensor systems
- Reliability, availability and dependability of biometrics devices
- Biometrics quality characterization and assessment
- Biometrics measurements for security applications (e.g., authentication, surveillance, computer security, national defense, transportation)
- Biometrics measurements for secure applications (e.g., e-commerce, e-banking, e-government)
- Management and operations of biometric measurement systems

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Submission and Review Process

Manuscripts should be submitted electronically to the IEEE Transactions on Instrumentation and Measurement website (tim.allentrack.net), by indicating that they are to be considered for the Special Issue on “Biometrics 2009”.

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