

Call for Papers
IEEE Instrumentation and Measurement Society
IEEE Instrumentation and Measurement Magazine
Special issue on “Forensic Metrology”

Nowadays, Justice administration refers more and more to scientific means of investigation to ascertain facts. Indeed, forensic and criminalistic laboratories perform numerous measurements and tests to support both criminal and civil legal actions.

Very often, legal actions are determined by the result of experimental tests, that is measurement results: DNA and fingerprint profiling, firearm footprint, toxicological exams are often considered conclusive evidence in criminal proceedings, while different kinds of measurements and analysis are considered to solve disputes and determine compensations.

This activity has originated an extensive discussion about the validity of the employed scientific methods, well represented by the 2009 NAS report and the 2016 PCAST report, that tried to identify some general rules for assessing validity of the profiling methods. Since most of these methods provide measurement results as a basis for the subsequent decision of the trier of facts, the critical importance of metrology in assessing validity to the obtained scientific evidence can be readily perceived.

The main aim of this special issue is to offer a forum that facilitates professional exchange of knowledge related to this important branch of metrology, and how it can eventually yield more pondered decisions. The scope of this special issue covers aspects ranging from fundamental research, including the important ethical implications of forensic metrology, to all kinds of advanced technologies and forensic applications.

A special emphasis will not be only devoted to cover the current state-of-the-art, but also emerging trends.

Prospective authors are invited to submit tutorial-style papers on topics related to Metrology applications in forensic activity, and Instrumentation and Measurement for forensic applications including, but not limited to the following:

- DNA analysis
- Fingerprint profiling
- Bitemark analysis
- Firearm footprint
- Chemical and toxicological analysis (on individuals and environment)
- Breath Alcohol Concentration and Blood Alcohol Concentration Analysis
- Audio forensics
- Linguistics and speech recognition
- Facial recognition
- Fire scene investigation
- Electrical metering and disputes on reconstruction of consumption
- Tampering detection

Papers should present to the wide audience a general overview of one scientific subject of your interest really framed in the Instrumentation and Measurement field.

Contributions dealing with Open Problems in IM are very welcome, also presenting challenging and ambitious solutions, which could be habilitated by current and advanced technology.

While drafting your paper to be submitted to IMM, you are strongly invited to take care that:

-The paper is properly framed in the field of Instrumentation and Measurement. This could be achieved by properly structuring the Review of the State of the Art in the Instrumentation and Measurement field and motivations of your work.

-In line with mission of the IEEE I&M Magazine, the paper aims to provide an overview of the topic addressed to the general I&M audience.

- The paper format is compliant with the IMM's author guidelines: <http://iee-ims.org/publications/im-magazine>

In general, each paper should contain 3500-5000 words, and present 4-6 figures.

When your paper is ready, please submit it completely through

<https://www.editorialmanager.com/IMM/default.aspx>

We expect to receive your paper by June 30th, 2020 to begin the review and production process.

With your submission, please include a cover letter where you specify that this paper is the extended version of the paper already presented and awarded at the conference.

Schedule:

Full-length paper submission: June 30th, 2020

Revised manuscript due: August 30th, 2020

Guest Editor:

Veronica Scotti