



## AMCTM 2020 – FIRST ANNOUNCEMENT AND CALL FOR PAPERS

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# International Conference Advanced Mathematical and Computational Tools in Metrology and Testing XII



15-17 September 2020

Sarajevo, Bosnia and Herzegovina

***An event of IMEKO TC21 “Mathematical Tools for Measurements”  
organised by IMBiH and co-sponsored by IMEKO***

[www.amctm2020.ba](http://www.amctm2020.ba)

### Conference aims

The overall aims of the conference series are to provide a multi-disciplinary forum to:

- Understand better the modelling, statistical and computational requirements in metrology
- Develop new mathematical and computation tools for measurement and testing
- Promote national, regional and international collaboration
- Support young researchers in metrology and related fields
- Address industrial requirements

The conference is the 12<sup>th</sup> in the series with previous conferences being held in Torino (1993, 2003), Oxford (1995, 1999), Berlin (1996), Lisbon (2000, 2005), Paris (2008), Göteborg (2011), St Petersburg (2014) and Glasgow (2017), <http://www.imeko.org/index.php/tc21-homepage>.

### Conference scope

The conference invites contributions relating to the general themes of

- mathematical and statistical modelling
- data analysis and uncertainty quantification
- algorithms and computational methods relevant to metrology and testing.

In addition, the conference encourages submissions relating to

- mathematical and computational tools to enable metrology address challenges in:
  - advanced manufacturing and industry
  - environment and climate e.g., sensor networks, smart cities, earth observations
  - energy and sustainability, e.g., smart grids, infrastructure monitoring
  - life sciences and health
- uncertainty quantification:
  - parameter uncertainty (input parameters whose values are uncertain)
  - structural uncertainty, model inadequacy, model bias, and model discrepancy
  - algorithmic uncertainty and numerical uncertainty, probabilistic numerics
  - interpolation or extrapolation uncertainty
  - uncertainties associated with data
  - uncertainties evaluated with non-probabilistic methods



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- data science and metrology
  - data provenance and integrity, data uncertainty, data curation
  - data analytics, data assimilation, machine learning, statistical learning
  - large scale computation, image analysis, Monte Carlo methods, Bayesian computation
  - data security and communication

**Note:** submissions relating to instrument design or experimental results alone are **not** within scope.

### Special Sessions

There is also the opportunity to organise special sessions dedicated to a topic, e.g.,

- Philosophy of science in measurement science, metrology
- Analysis of inter-comparison experiments
- Modelling and simulation of physical systems, experiments and experimental outcomes
- Non-quantitative data analysis
- Dynamical measurements
- Markov chain Monte Carlo methods
- Design of experiment
- Decision-making and risk analysis
- Coordinate metrology and geometric product specification
- Validation of metrology software
- Imprecise probabilities, interval arithmetic and statistics

Please see the call for special session proposals below.

### Organisation

The conference is an IMEKO TC21 event. IMEKO is the International Measurement Confederation [www.imeko.org](http://www.imeko.org), and Technical Committee 21, Mathematical Tools for Measurements, promotes the harmonisation, the co-ordinated use and the development of new mathematical and statistical tools for measurements. The conference is organised by IMBiH in conjunction with the National Physical Laboratory, UK, [www.npl.co.uk](http://www.npl.co.uk). IMBiH, the National Metrology Institute of Bosnia and Herzegovina, is responsible for developing scientific, industrial and legal metrology system. The Institute is a signatory to the CIPM-MRA on behalf of B&H. IMBiH's quality policy is to establish, maintain and manage the national metrology system in order to satisfy national and international requirements and needs, [www.met.gov.ba](http://www.met.gov.ba).

### Conference format

The conference will consist of:

- Plenary sessions featuring invited and selected contributions
- Special sessions organised by session chairs on a topic or representing an organisation or professional body
- Contributed sessions
- Poster sessions

It is anticipated that the special and contributed sessions will be held in two parallel streams.

### Key deadlines - updated

<b>16 Mar 2020</b>	Proposals for special session topics
<b>23 Mar 2020</b>	Decision on special session topic proposals
<b>30 Mar 2020</b>	Abstracts for contributed talks
<b>27 Apr 2020</b>	Decision on review of abstracts for contributed talks



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### Venue

The conference will be held Hotel Hills Sarajevo (Butmirska cesta 18, Ilidža 71210 Bosnia and Herzegovina).

### Social programme

Tuesday night, 15 <sup>th</sup> September	Reception drink on the hotel rooftop
Wednesday night, 16 <sup>th</sup> September (optional)	Sightseeing Sarajevo and conference dinner in Sarajevo city centre (Sarajevo Brewery) <a href="http://www.pivnicahs.com">www.pivnicahs.com</a>
Thursday night, 17 <sup>th</sup> September	Free time activities
Friday during the day, 18 <sup>th</sup> September (optional)	Visiting nearby city Mostar, lunch near to Buna river. All traveling information will be announced during the conference <a href="https://whc.unesco.org/en/list/946/">https://whc.unesco.org/en/list/946/</a>
Friday during the day, 18 <sup>th</sup> September (optional)	Technical visit to IMBiH laboratories

### Call for special session proposals and papers

#### *Special session proposals:*

Proposals for special sessions are invited by 17th February 2020. The proposals should be no more than two A4 pages in PDF format and should provide:

- Title of the special session
- Names and affiliations of the session organisers
- One-half page abstract overviewing the aims and technical content of the session and indicating how the aims of the session relate to the overall conference aims
- Suggested speakers and topics for the session

It is expected that special sessions will last 90 or 120 minutes with at least 3 talks per session with each talk lasting between 20 and 30 minutes. One talk can give an overview of the topic.

Proposals should be sent to AMCTM2020@met.gov.ba with “SESSION PROPOSAL” in the subject line. Decisions by the International Programme Committee on session proposals will be communicated by 9th March 2020.

#### *Contributed papers:*

Abstracts of up to two A4 pages in PDF format are invited by **23<sup>rd</sup> March 2020**. Although there is no required format for the abstract, authors may wish to use the World Scientific templates for abstracts (and later, full papers) in MS Word and LaTeX for the 9.00” x 6.00” book format available from [www.worldscientific.com/style/proceedings\\_style.shtml](http://www.worldscientific.com/style/proceedings_style.shtml). Authors can indicate their preference for oral or poster presentation.

Abstracts should be sent to AMCTM2020@met.gov.ba with “ABSTRACT” in the subject line. Decisions by the International Programme Committee on abstracts will be communicated by **27<sup>th</sup> April 2020**, along with guidelines for full papers. Authors of the accepted abstracts are asked to provide full papers by **15<sup>th</sup> September 2020**.

### Publication of papers

Following peer review, invited and selected submitted papers will be published by early 2021 in the multi-author book “Advanced Mathematical and Computational Tools in Metrology and Testing XII”, which will be Scopus Indexed. The previous eleven volumes associated with the conference series



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have been published by World Scientific (<http://www.wspc.com>). Volumes IX, X and XII are indexed in the Web of Science.

### Registration on [www.amctm2020.ba](http://www.amctm2020.ba)

The registration fee for the 3-day conference is:

€ 275	student registration,
€ 300	early bird registration before <b>30 June 2020</b> ,
€ 300	IMEKO TC 21 members,
€ 325	standard registration,
€ 375	late registration after <b>30 August 2020</b> .

### Accommodation

The conference will be held in Hotel Hills Sarajevo, Butmirska cesta 18, Ilidža 71210 Bosnia and Herzegovina. In line with that, we recommend Hotel Hills Sarajevo for convenience. Hotel Hills Sarajevo is in the centre of the green oasis of Sarajevo. The hotel includes 330 rooms and suites, multipurpose Congress centre with modern conference facilities, Wellness, Spa & Fitness Health centre, indoor and outdoor swimming pools, restaurants with international and national cuisine, and an attractive restaurant and lounge bar on the rooftop of the Hotel with beautiful panoramic view to the green surroundings of the hotel and the city, [www.hotelhills.ba](http://www.hotelhills.ba). There are several hotels nearby Hotel Hills, namely: Spa Terme Hotel, Hotel Austria & Bosna, Hollywood Hotel.

### Conference website

[www.amctm2020.ba](http://www.amctm2020.ba)

The conference website will be regularly updated with the latest information about the conference.

### Useful links

AMCTM 2020, registration

[www.amctm2020.ba](http://www.amctm2020.ba)

Institute of metrology of Bosnia and Herzegovina (IMBiH)

[www.met.gov.ba](http://www.met.gov.ba)

Additional information about Sarajevo

[www.sarajevo.travel/en](http://www.sarajevo.travel/en)

### International Programme Committee

Franco Pavese	Chairman, IMEKO TC21, Italy, Co-Chair
Nein Fan Zhang	Vice Chairman, IMEKO TC21, NIST, USA, Co-Chair
Alistair Forbes	Scientific Secretary, IMEKO TC21, NPL, UK, Co-Chair
Alen Bosnjakovic	IMBiH, Bosnia and Herzegovina, Co-Chair
Zijad Džemić	IMBiH, Bosnia and Herzegovina, Co-Chair

### European chapter (provisional)

Emil Bashkanski	ORT Braude College, Israel
Eric Benoit	IMEKO TC7, Université de Savoie, France
Dolores del Campo	CEM, Spain
Anna Chunovkina	VNIIM, Russia
Pasquale Daponte	IMEKO, Unisannio, Italy
Sascha Eichstädt	MATHMET, PTB, Germany
Eduarda Filipe	IPQ, Portugal
Nicolas Fischer	MATHMET, LNE, France
Valery Granovski	Electropribor, Russia
Valerie Livina	NPL, UK
Marco Seabra dos Reis	ENBIS, University of Coimbra, Portugal
Alexandr Shestakov	University of the South Urals, Russia
Grazia Vicario	ENBIS, POLITO, Italy
Victor Witkovski	Savba, Slovakia



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### International chapter (provisional)

Ahmad Barari	UOIT, Canada
Aliye Kartal	UME, Turkey
Vladik Kreinovich	University of Texas, USA
Gregory Kyriazis	INMETRO, Brazil
Ignacio Lira	PUCC, Chile
Leonel Lira-Cortes	CENAM, Mexico
Tomomichi Suzuki	ISO TC69, Japan

### Local organising committee (IMBiH, Bosnia and Herzegovina)

Alen Bosnjakovic  
Merima Causevic  
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Ehlimana Jugo  
Vedran Karahodzic  
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