

Dear Friends and Colleagues,

Depending on where you are, the winter or the summer probably passed, along with those events planned between our last newsletter and now.

We had our successful World Congress online; before that, the Technical Board and the General Council sessions with elections, several working group meetings and more.

A part of this issue, something new, is dedicated to introducing an IMEKO Technical Committee, this time TC6 Digitalisation. We have something different as well; a short piece by Prof Ewart Carson, who takes us back in time; to the 80s, meeting Professor György Striker, telling about IMEKO and TC13 of back then. Last, something else new, a piece by Kay Tancock Elsevier's Senior Publisher: "The growing IMEKO journal family at Elsevier."



Professor Masatoshi Ishikawa Japan



Professor Frank Härtig Germany

News on the World Congress Yokohama 2021

The traditional handing on of the Presidency, an important part of the World Congress closing ceremony, happened virtually. Professor Masatoshi Ishikawa passed on the flag and the gavel to Professor Frank Härtig with his good wishes. The introduction of the next World Congress, 2024 Hamburg, followed.

<https://www.imeko2024.org/>

Important facts

306 was the final number of submitted papers. 216 were accepted, and 91 papers were conditionally accepted from these 36 countries:

Austria, Belgium, Brazil, China, Colombia, Czech Republic, Denmark, France, Germany Hungary, India, Indonesia, Italy, Japan, Korea, New Zealand, Poland, Portugal, Romania, Russia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Tunisia, Turkey, United Kingdom, Ukraine, United States America, Uruguay.

The number of Congress registrations are 463, of which 85 were students.

38 countries participated in the congress, the previous ones with Mexico and the United States Minor Outlying Islands.

73 Technical Committee sessions took place during the World Congress.

Only registered participants may view the official website. The announcement of the awards is on the 22nd of September. These awards are; The Junior Paper Award, the Best Paper Award, and The Best Presentation Award.

The IMEKO 2021 proceedings will be published after the 30th of September in Elsevier's online journal Measurement. The Congress website closes on the 30th of September.

Our "Japanese Member Organisation thanks all the members of the General Council and the Technical Board for their support. Special thanks for the collaboration on the following: the call for papers, peer-reviewing of submitted papers, arrangement of session programs, holding the live events, selection of excellent papers and presentations."

General Council sessions

Our well-attended GC took place on the 28th and 29th of August. Highlights of the sessions are: The elections, two new Member Organisations joined us, and the Technical Board welcomed 44 new Technical Committee members:

Mr Wirun Laopornpichayabuwat,

Ms Rugkanawan Wongpithayadisa,

Prof Chu-Shik Kang,

Dr Khaled Chahine, Vice-Chair,

Mr Shiv Kumar Jaiswal,

Prof Marija Cundeva-Blajer, Scientific Secretary,

Mr GUO Su, Scientific Secretary,

Dr Shiv Kumar Jaiswal,

Mr José Luis Prieto Calviño,

Dr Sanjay Yadav,
 Dr Rama Dasu Pittala,
 Mr Paolo Emilio Roccato,
 Mr He Wei,
 Mr Yao Hejun,
 Mr Zhao Yongtao,
 Mr Admer Rey C. Dablio,
 Mr Bernd Kroon,
 Mr Christian Müller-Schöll,
 Ms Maria do Céu Lopes de Sousa
 Ferreira,
 Mr Mark van Gils,
 Mr Pierre Cluitmans,
 Mr Lotfi Senhadji,
 Dr Abdul Roudsari,
 Ms Laura Roa,
 Mr Guy Carrault,
 Dr Giangiacomo Minak, Vice-Chair,

Mr Matej Vesenjak,
 Mr Sascha Senck,
 Ms Leona Vavro,
 Ass. Prof Ashok Kumar,
 Prof. Sang-Youn Kim,
 Mr Grigory Ya. Panovko,
 Ms Dr Gökçen Bas,
 Prof. Albert Kabasele Yenga-Yenga,
 Prof. Mbuluyo, Mokili Kumbanyeki,
 Dr Akobuije Chijioke, Scientific
 Secretary,
 Ms Claudia Zoani, Scientific Secretary,
 Ms Monika Sabolová,
 Shri. Thingnganing Longvah,
 PhD Yijie Pan,
 PhD Dai-Hyuk Yu,
 Dr Damir Ilić,
 Mr Guilherme Penello Temporão,

IMEKO wishes them a lot of success in the TC of their expertise.

Working groups presentations

The presentation of the working groups followed the introduction and acceptance of the new members. From four topics, TC Events, TC Functioning, IMEKO Publishing activities, and the Functioning of the Technical Board, two presentations were marking the progress of these groups. Congratulations to them.

Elections

As every third year during the General Council session, the elections took place.

Our new President-Elect is Prof Paolo Carbone, who served IMEKO as the Publication officer for many years. He is taking on this new challenge now.

Our President is Dr Frank Härtig, who has been very active during his previous three years as President-Elect and as Chair of the Technical Board. He initiated many new activities.

Our Advisory President is Prof Masatoshi Ishikawa, already six years with us. He is dedicating three more years of his time to serve IMEKO in this position. He will chair the Advisory Board.

The Publication Officer is Prof Kenneth Grattan taking on another challenge again beside his many functions in IMEKO. He has been honoured with the Distinguished Service Award serving IMEKO for so many years. He gained vast knowledge from his various activities in IMEKO, such as President and Advisory President.

Information Officer: Dr Dirk Röske continues his hard work taking care of several aspects of IMEKO where his services are needed. Homepages, our online journal, the Acta IMEKO are among his principal activities.

Editor-in-Chief Acta IMEKO: Prof Francesco Lamonaca is relatively new in this position; he has many plans and is working on Acta IMEKO's future. He is also leading one of the workgroups shaping the IMEKO activities.

Treasurer: Prof Alexandru Salceanu continues as treasurer besides being the Chair of TC4. He is responsible for balancing the budget of IMEKO by adjusting it every year.

Supervisory Committee: Mr Aiwen Ma and Dr Zafar Taqvi are on this Committee serving IMEKO besides their other duties. This team welcomed Dr Zsolt Viharos now, who is also active as the Chair of TC10 and the delegate of the Hungarian Member Organisation.

Secretary-General: Mr Zoltan Zelenka continues to serve in this position, leading the Secretariat, covering all the aspects of the daily tasks with a lot of dedication.

The following IMEKO Board members were elected, reelected:

Secretary of the Advisory Board: Dr Alessandro Germak continues to serve in this position, just as Prof Pedro Girao, both involved with IMEKO for many years, actively participating as members of the Advisory Board. Prof Shigeru Takayama is newly welcomed to the Board. He has organised the successful recent World Congress Yokohama Japan.

TB members: Dr James Olthoff has served as a Technical Board member for some years now. Dr Malcolm McEwen is welcomed as a new, very active member.

IMEKO thanks all the elected Officers and Board members for their support.

Digital transformation and metrology: the new TC6 "Digitalization."

Digital technology has been an important element of measurement science for decades. However, the recent advances in technologies and methodologies have led to the beginning of a paradigm shift. Data and algorithms, cloud technologies, machine-readable information and large-scale sensor networks are just a few examples of that.

Several metrology institutes, regional metrology organisations and the CIPM have initiated efforts to develop and implement their digital transformation strategy. Those efforts are underpinned by a vast number of research activities at metrology institutes, academia and industry. The newly (re-)established IMEKO TC6 "Digitalization" aims to provide a forum where these activities can be brought together, knowledge can be shared, and new collaborations can be initiated. The purpose of TC6 is to provide a robust body of knowledge to support digital transformation when measurement is involved.

Measurement technology and metrology will play an important role in the digital age: sensors provide the bridge from the physical to the virtual world; trustworthy and reliable data are required to underpin decisions and automation. Therefore, the international metrology community is developing new tools, methods and services to support the transformation into the digital era. In TC6, we focus on the following topics:

- Digital representation and use of metrological information
- Digital transformation in the quality infrastructure
- Digital transformation in traceability
- Metrology for digitalisation and digital technologies in industry and science



(AdobeStock_133878524(c)metamorworks)

Digitalisation and digital transformation are highly interdisciplinary in nature. Thus, TC6 seeks collaborations with other IMEKO TCs for joint events and activities. The first examples are the TC6 sessions and the special session on digital calibration certificates (DCC) at the IMEKO World Congress 2021. The contributions to these sessions came from various very different directions, covering a wide range of topics and backgrounds. We will continue this with the first IMEKO TC6 Event, "International Conference on Metrology and Digital Transformation", scheduled for 19-21 September 2022. We would like to invite all TCs to join us in the preparation of this event - either by organising a special session or by submitting contributions.

By Sascha Eichstädt Chair of TC6

A Journey with IMEKO TC13

Dear Friends,

I have enjoyed a connection with IMEKO TC13 (Measurement in Biology and Medicine) for most of my extensive professional career, so perhaps this look back through history might be of interest to some of you.

My original involvement in IMEKO came about as a result of having as a mentor (and subsequently good friend) at City, University of London, where I was a newly appointed lecturer, Prof Ludwik Finkelstein, who was very prominent in IMEKO affairs, as I am sure that some of you will be aware or remember. He encouraged me to become involved in the Institute of Measurement and Control, the UK IMEKO National Member Organisation, and through that, IMEKO itself.

TC 13 was established in 1980, and shortly afterwards, I became its Secretary. The first Chair of the committee was a Russian whose view was that all TC13 events for the foreseeable future should take place in the Soviet Union, simply rotating from one Soviet state to another. I objected to this and suggested that we should have a more international perspective and arranged, without much support from him, that we should hold the 3rd conference in Edinburgh - a very successful event in 1986.

I first visited Budapest in 1983 for a United Nations Workshop on topics related to measurement in medicine, at which I was invited to speak. Professor György Striker, who had been IMEKO President from its inception in 1958 until 1971, learnt that I was coming and insisted that I met him. Although no longer President, he was very much the leader of IMEKO's central administration as its Secretary-General. He gave me a very full Saturday morning walking tour of Budapest, at the end of which he said that I looked tired! He was incredibly fit and walked at a tremendous pace, despite his short stature and mature age. It was very much a route march!

One of the places he took me to was the Hungarian National Gallery, where he introduced me to the works of Munkácsy - a painter of whom I then knew nothing but is now one of my favourite artists. Whenever I have returned to Budapest, and I suppose I have been eight or so times, I always went to that Gallery and straight to the rooms housing the Munkácsy collection.

György was a very determined person, very warm and friendly, but absolute resolute in his conviction as to what needed to be done to take IMEKO forward! He was very encouraging towards me in wanting me to develop the area of biomedical applications of measurement within IMEKO. Where he encouraged, he expected me to respond and take things forward! No nonsense! György, ably assisted by Karolína Havrilla (subsequently Secretary of IMEKO), made a very effective pair in enhancing the international thrust and remit of IMEKO.

The fourth conference was held in Bratislava in 1987. From this meeting, we produced a book, 'Advances in Biomedical Measurement'. I was one of the editors. Another was Peter Kneppo who I see is still the TC13 member of the Czech Republic.

One very helpful initiative that a number of us took forward in the 1990s involved collaboration between IMEKO, IFAC (the International Federation of Automatic Control) and the IEEE. Each institution held a series of conferences/symposia in the biomedical area, so we agreed that whenever one of the three organisations held an event, it would be officially co-sponsored by the other two. This co-sponsorship was officially endorsed at senior level by all three organisations. So, for example, the IFAC Biomedical Symposium (IFAC TC8.2) that was held in Budapest in 2012 was co-sponsored by both IMEKO TC13 and the IEEE Engineering in Medicine and Biology Society. This meant enhanced publicity for all events for all three institutions and a greater opportunity to participate. This co-sponsorship has rather fallen away in recent years, but it is certainly something that would be worth re-activating.

The past forty years have seen a tremendous expansion in the development and application of measurement in biology and medicine. For some twenty years, I had the privilege of leading a Research Centre for Measurement & Information in Medicine where the scope of our activities embraced mathematical modelling in medicine, the development of clinical decision support systems and telemedicine. These and much more besides, including biosensors, medical imaging technology and imaging and data interpretation using Artificial Intelligence, provide an ever-increasing scope for TC13. The TC, now chaired by Karel Roubik from Prague, who has recently taken over from a former student and colleague of mine, Ron Summers, looks set to play an ever more important role within the IMEKO measurement family.

By Dr Ewart Carson,
Emeritus Professor of Systems Science City, University of London

The growing IMEKO journal family at Elsevier

The IMEKO' family' of measurement-related journals published by Elsevier is doing incredibly well!



Measurement, the original and long-established 'parent' title continues to go from strength to strength, now reaching an Impact Factor of 3.927 and a CiteScore of 6.4. In 2020, the journal received over 6,000 submitted articles, all handled expertly by a high-profile and dedicated editorial team led by Editor-in-Chief Paolo Carbone (University of Perugia, Italy). The editors 'met' virtually in June for a board meeting, and Elsevier thanked them for their outstanding commitment and hard work over this last, very difficult year.



In 2019, in line with the increasing demand for sensors-related publication outlets, as well as the open access (OA) publishing model, a second journal was introduced: **Measurement: Sensors**. This fully Gold OA title is edited by Ken Grattan (City University of London, UK), and is open to original, high-quality submissions from all relevant fields of this highly topical and multi-disciplinary subject. The journal is indexed in the Directory of Open Access Journals (DOAJ), and will soon be in a position to apply to further indexing services. Members of IMEKO are to be informed that they are all eligible for a discount of 30% off the open access publication fee for

Measurement: Sensors. Furthermore, all special issue articles are being published completely free of charge in 2021. Further information on Article Publishing Charges at: <https://www.elsevier.com/journals/measurement-sensors/2665-9174/open-access-journal>. Please note that the proceedings of this year's IMEKO XXIII World Congress are to be published shortly in **Measurement: Sensors**.



The latest launch in the IMEKO portfolio of journals is **Measurement: Food**, edited by Antje Hebestreit (Leibniz Institute for Prevention Research and Epidemiology, Germany) and published since early 2021. The study of food and nutrition measurements has been growing rapidly in recent years, and IMEKO members will already be aware of the work of Technical Committee 23 (Metrology in Food and Nutrition). So far, submissions have been coming in quickly and in a range of interesting and exciting fields of study. A procedure is also in place to allow for food-related articles

submitted to **Measurement** to be offered transfer to **Measurement: Food**, if appropriate. Note that there is no Article Publishing Charge for authors contributing to **Measurement: Food** until the end of February 2022.

Next year, all three journals will be showcased at the Elsevier conference planned for late summer at Shandong Academy of Sciences in Jinan, China. 'Measurement, Sensor Systems and Applications 2022' (MeSSA) is still in the planning stages, but full information and a website with submission and registration instructions will be available soon. The Chairs of the conference are Ken Grattan and Paolo Carbone.

Finally, in the latest news for **Measurement** and **Measurement: Sensors**, these two journals are joining together to launch their first Early Career Advisory Board. Applications are open until the 1st of September 2021 at: <https://www.journals.elsevier.com/measurement-sensors/news/applications-open-now-for-early-career-advisory-board-2021>. The idea is to provide an opportunity for exceptional early career researchers to join the journals' editorial board and benefit from this experience in preparation for full board membership later in their careers. At the same time, they will actively contribute to the journals' development and provide assistance to the editors in a number of ways. We hope that this initiative will prove a success and continue as a standard feature of the two journals going forward into the future.

A huge thanks to IMEKO and its members for your continuing strong support for the three measurement journals!

By Kay Tancock

(Elsevier's Senior Publisher for the Control Engineering and Signal Processing portfolio of journals, which includes the three IMEKO Measurement titles. She has an MA in Geography from Oxford University and an MSc in Town Planning from Newcastle University. Based in Oxford, UK, she has worked on a number of journals at Elsevier, covering the social and physical sciences, since 2013. Kay loves to travel and is eagerly anticipating getting back on the road to meet editors, authors and other researchers in the scientific community once restrictions are fully lifted! In her spare time, she runs, bakes and plays with her energetic four-year-old.)