

DEAR FRIENDS, DEAR COLLEAGUES,

With the first newsletter of the year 2022, IMEKO wishes you once more all the best for the year 2022. May you be healthy, happy and successful; most of all, content with your life.

IMEKO will continue growing and expanding in 2022. With you, we can achieve even more than in the previous year. Thank you for being part of the IMEKO Community supporting the organisation every step of the way.

Now, about this issue, Professor Tilo Pfeifer talks about his 50 years with IMEKO. What an anniversary to celebrate! The Technical Committee 7 dedicated to "Measurement Science" is introducing itself. Dr Dirk Röske gives details about the IMEKO new event portal. This newsletter also brings the latest from the Presidential Board and the Secretariat.

NEWS FROM THE PRESIDENTIAL BOARD

Technical Committees Workshop with the Working Groups March 25 2 PM CET

The President-Elect, Professor Paolo Carbone, will chair the workshop. The working groups will share their results and offer recommendations. After the 20 minutes presentation each, a discussion will follow.

The group on Technical Committee Functioning had 7 meetings; currently preparing and testing a questionnaire for the TCs. This will be, among others, presented at the workshop. A new GDPR consent will be sent out with the questionnaire to update all TC membership data.

The group on IMEKO Publishing Activities had 6 meetings; The main focus has been on Acta IMEKO, our online journal. The number of published papers rose from 2019-44, 2020--54,

to 2021-124 papers. New: Acta has now a DOAJ number which means it is registered in the Directory of Open Access Journals. About publishing; Acta will keep publishing quarterly but from the start of each quarter until the end of the quarter. Each complete issue will be visible in the "current gallery" for one month (the last in the quarter of the year). The full issue will be published together with its editorial(s).

The group on Technical Committee Events had 3 meetings: the focus is the "How to organise..." document. This effort helps and aims IMEKO to be more transparent, bringing clarity in event organisation.

The group on Technical Board Functioning had 2 meetings. Their work is based on the Constitution and Bylaws. They define the areas where changes have to be made in the structure and its functioning.

World Metrology Day May 20 2022: "Metrology in the Digital Era".

IMEKO will celebrate Metrology Day with a special edition of the newsletter published for this occasion. Words of the IMEKO President, Professor Frank Härtig, will be followed by the information on how the digital era applies to each Technical Committee's activities.

IMEKO and the 17 Goals of the United Nations

This is another initiative with the Technical Committees involvement. Each TC will summarise how its activities correspond to the UN goals. The collected information will be displayed on the IMEKO Homepage. IMEKO cares and complies with the UN Goals.

The Secretariat would like to use this opportunity to thank the TC Chairs and everyone involved for working with us together, helping us realise these two projects. Another thank you for always responding promptly assisting us in the best possible way.



NEWS OF THE SECRETARIAT

The digitalisation of the old IMEKO proceedings is finished. We are now looking at the cataloguing to make it reachable and usable.

Another project is digitalising the old pictures, documenting IMEKO's history. Currently, we are negotiating.

February 15 at 2 PM (CET) is the first IMEKO coffee hour. This will be a once a month opportunity to meet, chat and drink our coffees together. If you are interested, please contact the Secretariat.

February 15 at 2 PM (CET) is the first

New members and officers to the IMEKO Technical Committees

Renato Reis Machado Brazil TC3; Dr Zandai Kashino, Japan, TC17; Daniele Fontanelli Italy TC17; Thrung T Pham USA TC17.

Prof. Simone Keller Füchter, a member of TC17, has been elected to Scientific Secretary, Assoc. Prof. Bálint Kiss, a member of TC17, has been elected to Vice-Chair.

IMEKO wishes all the new members and officers a lot of success!

IMEKO EVENTS

TC4 Measurement of Electrical Quantities



“On behalf of the Organizing Programme Committee, it is a great pleasure to invite you to the 25th IMEKO TC4 International Symposium and 23rd International Workshop on ADC and DAC Modelling and Testing (IWADC) that will be held in Brescia, Italy, September 12-14, 2022.

IMEKO TC4 2022 will provide a forum for the dissemination of ideas about electrical and electronic measuring techniques and principles of implementation of information and communication technology for the measurement and enhancement of accuracy. Contributions from all research Communities working in measurements or appropriate fields are welcome to join the symposium.”

<https://www.imeko-tc4-2022.org/>

Written by Luca de Vito

TC20 Measurement of Energy and Related Quantities

“PTB, the National Metrology Institute of Germany and IMEKO International Measurement



Confederation have come together to initiate the first international workshop focusing on the application of laser diagnostics in the renewable energy sector. The workshop provides a platform for participants working in various laser-based diagnostic methods in different applications to come together and share their expertise in respective forums. The online workshop this year is scheduled for 7-8 March 2022. For more information: <https://www.ptb.de/imeko-tc20/mainpage>

TC20 Measurement of Energy and Related Quantities

“On behalf of the International Measurement Confederation-Technical Committee 20 (IMEKO



TC20) and Department of Physical Chemistry at PTB - the German Metrology Institute under the Ministry of Economics and Energy, we would like to invite you to be a part of our Indo-German International Conference on "Metrology for the deployment of green hydrogen and renewable fuels in India". The conference is funded by BMZ, the German Federal Ministry for Economic Cooperation and Development. It is planned to be held in Goa, India, April 4-7, 2022. To find out

more about the conference, the venue and deadlines, visit the conference website: <https://www.imeko-gh2fuels.ptb.de>

Discussion Club TC11 and TC24

TC11 launched a series of virtual discussions worldwide in 2022.

“IMEKO TC11 Measurement in Testing, Inspection and Certification held on January 18 the first "45-Minute Discussion Club - TIC Talks"(using MS-TEAMS).

The title of the discussion was "Innovation strategies in the TIC sector" with moderator José Luis Prieto Calviño (Spain). Ambidextrous mindset-set and its alignment with business strategies to find out environmental, societal, and governance (ESG) opportunities and challenges. Technology is another innovation source, and it has to be supported by the organisational structure for open innovation and collaboration.

The discussions of more than sixty attendees (from Brazil to Indonesia) were fascinating, and 45 minutes was not enough. The organiser is very pleased with the first "Discussion Club" and is optimistic about the development of this new activity.

The next events of the "45-minute Discussion Club":

Talks on "Chemical Measurements" from IMEKO TC-24 "Chemical Measurements" will be "Measurements and diagnostic techniques for cultural heritage" with Sabrina Grassini on **February 8 2022, at 1 PM (CET)**.

On March 1; "Lab of the Future" with Álvaro Silva Ribeiro asribeiro@Inec.pt

On March 15, "Management Systems and Quality in the TIC Sector: Opportunities for Improvement" with Rama Dasu Pittala prd@ciclpp.com

On April 19, "Measurement for Smart Cities" with Álvaro Silva Ribeiro asribeiro@Inec.pt Alvaro Ribeiro & Mladen Jakovčić, on behalf of the organising committee."

INTRODUCING TC7 MEASUREMENT SCIENCE

"The TC7-Measurement Science is a transversal technical committee, a feature it has in common with other IMEKO committees, such as TC1, TC6, TC8, TC11, and TC21. As defined in its aims, it promotes the building of a body of knowledge of concepts, axioms, rules, principles, methods, and procedures for obtaining, processing, expressing, and communicating correct and reliable measurement results of both physical and non-physical quantities. In this letter, we remind a brief history of TC7.

After two preliminary meetings in Pezinok (Czechoslovakia, 1969) and Budapest (Hungary, 1971), the TC7-Measurement Theory was established in 1973, with the Inaugural Meeting: Fundamentals of Measurement Theory, during the VII IMEKO World Congress (Dresden, GDR). The technical committee name was formulated by Prof. Dr. -ing. habil. Dietrich Hofmann (founding Chairperson of TC7 and currently TC7 honorary member). Although Prof. L. Finkelstein has suggested the name Measurement Science since 1975, during the first TC7 Symposium (Enschede, The Netherlands), only in 1993, during the IMEKO TC1 and TC7 Joint Colloquium (London), the decision to rename the TC7 occurred. By 2021, a total of 45 TC7 events have been organised (see for the full list <https://www.imeko.org/images/tc7/TC7-poster2022.pdf>)

From the early beginning, TC7 has a close link with TC1-Education and Training in

(Dubrovnik), in 1990 (Karlsruhe), in 1993 (London), and systematically from 2005 (Ilmenau) onward with the Joint IMEKO TC1-TC7 Symposia.

TC7 also encouraged the emergence of new relevant topics regarding measurements in the fields of Social and Human Sciences. This research topic was progressively consolidated along with the TC7 activities in Symposia (2008, Annecy; 2010, London; 2013, Genoa; 2014, Madeira Island); culminating with the Joint Symposia organised in Berkeley (2016), centred in Social Measurements, in Rio de Janeiro (2017), which emphasised the challenging features of Measurement Science in the fields of Natural and Social Sciences, and in St. Petersburg (2019), when the topic was already fully consolidated.

TC7 successfully collaborates with TC13-Measurements in Biology and Medicine. After being discussed during the XIX IMEKO World Congress (Lisbon, 2009), this cooperation started in 2010 (London) and became systematic from 2011 (Jena) onward with the Joint IMEKO TC1-TC7-TC13 Symposia.

More recently, and following a similar evolution, cooperation with TC18-Measurement of Human Functions, which is also closely associated with the topics addressed in the TC7 joint events, started in 2019 (St. Petersburg) with the Joint IMEKO TC1-TC7-TC13-TC18 Symposium. The forthcoming TC7 event, Joint IMEKO TC1-TC7-TC13-TC18 Symposium 2022, is

planned to be held in Porto (Portugal) from August 31 to September 1, 2022.

Summing up, one perceives that TC7-Measurement Science is a fuzzily defined community of scientists devoted to the scientific investigation and a better understanding of the measurement of physical and non-physical quantities at both fundamental and practical levels, firmly committed to overcoming the present and future challenges faced by the science of measurement.

As an extension of his seminal paper "Representation by Symbol Systems as an Extension of the Concept of Measurement," published in 1975, Prof. Ludwik Finkelstein introduced the concept of weakly defined measurement, also known as soft measurement. This approach of measurement science-inspired multiple researchers, not only related to the TC7

But also to most of the IMEKO TCs. It follows an important expansion into the Measurement field and may concern any measurement of complex entities.

The planned TC7 event, Joint IMEKO TC1-TC7-TC13-TC18 Symposium 2022: "Cutting-edge Measurement Science for the Future," will be held in Porto (Portugal) from August 31 to September 2, 2022. Besides the four IMEKO Technical Committees, the symposium aggregates the participation of MATHMET (European Centre for Mathematics and Statistics in Metrology), a scientific community from the European Metrology Network. The IMEKO TC1+TC7+TC13+TC18 & MATHMET 2022 also invites contributions from researchers facing metrological traceability challenges."

Written by Dr Eric Benoit

THE NEW EVENT PORTAL

Recently, IMEKO has got a new event portal. It can be found easily by opening the link <https://conferences.imeko.org/> or using the menu item 'IMEKO's Event portal' on the website of IMEKO at <https://www.imeko.org/>. This new web portal is hosted at Germany's Physikalisch-Technische Bundesanstalt, (PTB). The installation is based on Indico, which is, according to its website, an 'open-source tool for event organisation, archival and collaboration', see <https://getindico.io/>. Indico is developed by CERN, the European Organization for Nuclear Research, well-known not only amongst physicists for their Large Hadron Collider LHC.

What does the portal offer to the community? Well, it is probably not the best

Indico offers much more; it covers all main areas of event management, beginning from the Announcement and Call for abstracts/papers, including the paper submission and reviewing process, conference tracks (usually related to special sub-fields of the TC's area), participant registration, event programme, timetable and sessions, and ending up with the publication of materials.

Volunteers have done the work, and I would like to thank M. Battikh and many other colleagues from PTB for their great job. Without their support, we would not be where we are now. We have just started to explore all the new possibilities offered by the tool.

However, we are convinced that the new portal will be a very good and even better replacement for the Open Conference System (OCS) of the Public Knowledge Project that we were running for more than seven years until the end of 2020. Since the OCS was not further developed and maintained, we had to substitute it.

Now we have started to use the new tool, and everybody is invited to support the idea behind IMEKO: information exchange using different platforms, including conference talks, presentations and discussions, journal publications and reviews, and conference meetings or workshops.

Please take the chance and create your personal account by registering at <https://conferences.imeko.org/register/>. Submit your contribution to IMEKO events! Help the community by acting as a reviewer! Support the event organisers!

For IMEKO event organisers: don't continue to look for a great event management tool. We already have one. Contact the IMEKO Secretariat for more details.

Written by Dr Dirk Röske

PROFESSOR TILO PFEIFER FIFTY YEARS MEMBER OF THE IMEKO COMMUNITY

Professor Pfeifer played a vital role in IMEKO history. He served as president, as chair of two TCs from which the TC14 he founded. He writes the first part of this piece, and the second part is the result of our delightful conversation in a personal meeting.



"My first contact with IMEKO goes back to the Year 1972, which means today, I celebrate 50 years of IMEKO membership. Unbelievable!

In 1972, I was just 32 years old, one of the youngest professors at the Aachen University, when I received the call for papers for the VI.-IMEKO World Congress in Dresden, Germany. This was an excellent opportunity for me to get to know the international metrology community in one fell swoop. So I took the chance and immediately submitted a paper through the German IMEKO member organisation. My paper was accepted, and I could travel to Dresden.

By the way, my very first visit to the DDR to the Dresden congress was an overwhelming event for me. More than 1500 participants and representatives of metrology from many countries attended. As a result, I made many contacts and a firm connection to IMEKO. This connection is still there.

The next IMEKO highlights were following world congresses in London in 1976 and in Moscow in 1979. The congress in Moscow was of very special relevance for me because I was with 40 years by far the youngest member among all the older, very honourable GC members. Nevertheless, I was rather surprisingly unanimously elected as the new IMEKO president in Moscow. By this, of course, I received the assignment to organise the next world congress in Germany in 1982. Not an easy task because the congress was, as decided by our member organisation, to be held in the still divided city of Berlin. After lengthy discussions with many interruptions, it took almost the next two GC meetings to reach a compromise. It consisted of the fact that the participants from the eastern European countries could stay overnight in Berlin-East crossed the border of the 2 Germanies by a special transit licence to take part in the XIth IMEKO World

Congress Berlin-West, in the newly constructed ICC (International Congress Center).

Initially, I focused on the major IMEKO events. Around 1980 I became more and more interested in the Technical Committees. Based on my research and teaching activities at the University of Aachen, I founded TC14, "Measurement of Geometrical Quantities", which was structured into 2 areas: "Metrology and Quality Control" and "Laser Metrology for Precision Measurement". This structure provided the opportunity to hold a symposium on one of the TC14 focus areas virtually every year. In the following years, we have continued to do so until today.

Besides the traditional European IMEKO member organisations, I also tried to organise symposiums in South American and Asian countries based on existing research contacts by concentrating on the TCs. For example, the 1st TC14 symposium was held in Tokyo in 1984, shortly after the TCs foundation. The 2nd TC14 symposium was held in Beijing in 1989. I think this symposium was the first IMEKO symposium ever in China. For me, it was a very good preparation for the XIIth. IMEKO World Congress in Beijing in 1991. Besides this, I got many new contacts, especially with Colleagues from the Tsinghua University, where I later on, until 2008, held once a year courses on Laser- and optical-based micro measurement for Master students. Not to forget the TC14 symposia in South America, Brazil in 1999, Mexico/Merida in 2005, and a workshop in Chile/Valparaiso in 2003.

It happened shortly before my retirement that I was asked again to take over the Chairmanship of one of the oldest IMEKO TCs, the TC2 "Photon detectors", founded by Prof. Görlich in 1962. Since Prof. Görlich retired as Chairman after successfully organising fifteen TC2 Symposia in more than five countries, TC2 was inactive over several years, from 1995 to 2000. I had pointed out several times in the GC meetings

that photonics would be one of the most important drivers of innovation in the 20th century. Consequently, I was entrusted with the revitalisation of this committee. Based on my research topics in photonics and optical sensor technologies at our Fraunhofer Institut in Aachen and the resulting numerous national and international contacts, I quickly succeeded in organising the 16th TC2 Symposium in 2002 Aachen Germany with many topical contributions and new members. Further TC2 symposia followed in short time intervals in Frankfurt, Prague, Hangzhou/China and Linz, where in 2011, the leadership could be successfully handed over to Prof. Zagar. Since 2012, I have withdrawn more and more from the active participation in IMEKO TC topics. Now there is finally more time for my private interests and hobbies. For example, I am looking forward to spending the next skiing vacation in the mountains of Tirol, Austria, with former students and friends as we do every year.

Conversation with Professor Tilo Pfeifer

How did it all fit in your daily life to play an active role as you had in IMEKO?

Sometimes, organising an event was quite demanding, for example, the Berlin conference in the 80s or the TC14 conferences that we held every year. I also had my daily work at the research institute and the university. You know, in fact, when I started at the research institute, I started from zero. There was no one to take it over from, to learn from; I was alone. I thought about how would I ever get young researchers to join me in the institute? I decided to organise two events each year. In the summer we went to the Netherlands to sail on the sea, in the winter we went skiing. Soon enough, I had a large team as the world spread of this.

I offered a position for research and went on these events where you really got to know each other very well, and since then, we have remained on a first-name basis. My successor kept this tradition, and we still carry on. Usually, some 40 people go out together, we are all friends.

When did you stop working at the Fraunhofer-Institut (IPT) institute?

In 2002, though, I hadn't stopped completely. I am a member of two associations and go back to the institute twice a week for a couple of hours. It is exciting to keep up with the research developments. Every time I go, I look forward to hearing what's new.

You have founded the TC14 and made it a very successful TC during the years, then took over the TC2. What do you think is essential for the successful functioning of a TC?

To lead a TC is an enormous commitment. TCs are, without doubt, the backbone of IMEKO. TCs have their own community. It is crucial to work with them. Try to expand it, organise events and make sure you have close ties with everyone. Have meetings, and if things don't work well, try to talk about it openly and ask for help. Also, it is essential to plan your resignation (from being a TC chair) to find a successor and pass on all the information before.

What did you like most about the earlier years with IMEKO?

It felt like being part of a family. I had very close contact with György Striker (the founder of IMEKO), his wife Barbara, and Dr Tamás Kemény (long time aid of Mr Striker, later the IMEKO Secretary-General) and his wife. You see, back then, it was different. Typically, women stayed at home with the children up to the nineties; therefore, conferences congresses were always organised with a special programme for the ladies. After the event, we were invited. Nowadays, with about thirty-thirty five per cent of the young researchers at my formal

institute, for example, women, these types of conferences aren't organised anymore.

Could you briefly describe Mr Strikker?

György Striker was an amazing person. His short convincing arguments could silence any dispute arising at a GC or other occasions at once. We met several times a year, and I have learned a lot from him, such as handling events and organising conferences congresses.

Do you have any thoughts on the present situation caused by the necessity of replacing live events?

IMEKO needs a face to face event again. I am looking very positively forward to the coming World Congress in Hamburg, Germany. I hope it will be possible in Hamburg to meet again and that many people will attend from all over the world.



Before publishing this conversation, I had brief contact with Professor Pfeifer. He had just returned from his traditional skiing vacation and had a wonderful time with formal colleagues and friends.

NEWS ELSEWHERE



On 01 - 03 March 2022, PTB organises the second International DCC Conference as a fully digital event. The technical scope of the conference will focus on current advances of the Digital Calibration Certificate (DCC), including, but not limited to, implementation, current applications, good practice examples, and middleware. For this purpose, there will be a two-day main conference and one day with plenty of time for discussions. The daily starting time will be 12:00 UTC (Coordinated Universal Time).

Participants from all over the world are invited to exchange ideas and experiences and learn a lot about the DCC. The conference is aimed at participants from:

- ·Industry
- ·Calibration laboratories
- ·Accreditation bodies
- ·National Metrology Institutes and Designated Institutes

This conference would like to address the whole area of digitisation in the field of calibration. Registration will open on February 1 2022. To find out more about the conference, the registration process, and your possibilities to contribute, please visit our website:

<https://dcc-2022.ptb.de>

Please, distribute this conference notice to interested colleagues and peers.

We are very much looking forward to meeting you at the DCC Conference 2022 online.

Measurement, Sensor Systems and Applications Conference

MeSSAC 2022

24-26 AUGUST 2022
JINAN, CHINA

Measurement, Sensor Systems and Applications is a new international conference organised by Elsevier in association with the journals Measurement and Measurement: Sensors. IMEKO supports it, and some are participating in the Technical Program Committee: Eric Benoit, Université de Savoie, France; Aimé Ekuakille, University of Salento, Italy; Ravi Fernandes, PTB, Germany, Frank Härtig, PTB, Germany; Andy Knott, NPL, UK; Yasuharu Koike, Tokyo Institute of Technology, Japan; Dan Kytýr, Czech Academy of Sciences, Czech Republic;

Renato Machado, INMETRO, Brazil; Franco Pavese, INRIM, Italy; Gustavo Ripper, INMETRO, Brazil; Michela Sega, INRIM, Italy; Davor Zvizdic, University of Zagreb, Croatia;

MeSSAC 2022: Measurement, Sensor Systems and Applications Conference
Abstract submission deadline: March 11 2022

Early booking deadline: May 30 2022

Website: <https://www.elsevier.com/events/conferences/measurement-sensor-systems-and-applications-conference>

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