

## DEAR FRIENDS, DEAR COLLEAGUES,

2024 is special for IMEKO as our triennial World Congresses will take place in Hamburg, Germany! This great scientific event is also a unique opportunity to catch up with colleagues and friends from all over the world.

Besides the anticipation of the Congress, the first event of 2024, a successful Technical Committee workshop, has already occurred in January. Acta IMEKO, our online Journal, published a new issue and announced the best reviewers of 2023. In this newsletter, meet Michela Sega, TC8 Chair. From the industrial contacts, Mettler Toledo is introducing itself. There is a glimpse of view offered into the 1960s how a ladies' programme could be organised at a conference. IMEKO's major event is the Congress, but we do support several other events organised elsewhere, such as the 4<sup>th</sup> International DCC Conference on FAIR principles and the 2<sup>nd</sup> International Symposium Dubai UAE. Our successful partner, EUROLAB, shares its plans with us for 2024. Last, we remember Dr Steffen Rudtsch, who recently passed away.

**THE LATEST NEWS! DUE TO THE MANY REQUESTS, THE PAPER SUBMISSION DEADLINE FOR THE IMEKO WORLD CONGRESS IS NOW EXTENDED UNTIL THE 25<sup>TH</sup> OF FEBRUARY**

## NEWS FROM THE TECHNICAL COMMITTEE WORKSHOP

The very well-attended workshop was held online on the 22<sup>nd</sup> of January and covered the following topics.

1. Publishing with Scopus and Web Science, indexing:  
Acta IMEKO and the IMEKO event proceedings are initialised now separately to be managed with Web of Science.
2. Discussion on all TCs involving Interest Survey:  
The survey shall be finalised by the Secretariat and given over to the TC Chairs for use by March. It aids several aspects of membership management.
3. A new Information Officer  
IMEKO is seeking a new information officer as our very best one retires. To find out more, please contact the Secretariat.
4. TC officers' term  
Attention has been called to the TC Officers' length of serving. Where due, a re-election should be considered.
5. The Working group activities  
All the working groups start another period of their activities. TCs members are invited to volunteer for these. The groups are:

- Publishing: Carries on unchanged
- TC functioning:

A new task is to work on a draft guideline: "How to Chair a TC". An initial draft is available to start the activities.

- WG on TC events:

Among others, the ways of sponsoring shall be discussed.

- TB functioning:

The IMEKO Officer's task description is next on their list

- WG on Branding:

This is about all aspects of branding, templates, rules and more

- WG on Digitalisation:

IMEKO is part of the signature group, the Joint Statement on the intent of digital transformation in the international scientific and quality infrastructure.

The first event organised will take place to discuss the FAIR principles.

All the IMEKO contributions should arrive at the Secretariat by the 15<sup>th</sup> of February.

If you would like to participate in one of the Working groups, please contact the Secretariat.

**FRANCESCO LAMONACA, THE EDITOR-IN-CHIEF OF ACTA IMEKO TO BRIAS**



Francesco Lamonaca, our Editor-in-chief of Acta IMEKO, has been selected as one of 16 Senior fellows from 12 countries for the 2024 Brias Programme on Sustainable Robotics. Given his expertise in measurements for and by robots, non-invasive

monitoring systems, synchronisation, and distributed measurement systems, he is invited to collaborate with top scientists worldwide on robotics-related topics.

The Brussels Institute for Advanced Studies (Brias), co-founded by the Université libre de Bruxelles (ULB) and the Vrije Universiteit Brussel (VUB), expands upon the mission of other IASes as an incubator of ideas and research by focusing on current and urgent themes with a great societal impact (<https://brias.be>). Located in the heart of Brussels, it attracts the best scientists, artists, and designers from various fields or countries without any philosophical restrictions. It allows work in an atmosphere of complete freedom, collaboration, mutual emulation and crossfertilisation.

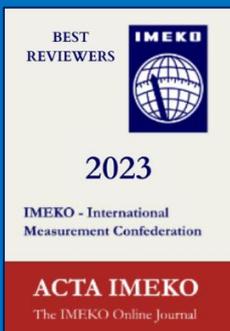
Brias facilitates collaborations with countries facing critical challenges about sustainability. Every year, a maximum of 20 'Briasfellows', top personalities in their respective fields, are selected for the program. For its 2023-2024 program, Brias has chosen the topic "Sustainable Robotics". As Robotic and Automated Devices become an integral part of our lives, it has become critical to understand if they can be truly durable and how they could optimally contribute to sustainability.

Brias will allow experts in Robotics, Control, and Automation to go further and achieve a dream: bringing together experts from across the world to tackle critical debates (from Food to War), explore challenges for the present and future challenges (from sustainable materials to life-cycle assessments).

Due to the transversal nature of Measurement Science, Prof. Lamonaca was invited to hold the first talk during the inauguration ceremony of this academic year entitled "Measurements for Sustainable Robotics and Automation". His next invited speech is on the 16<sup>th</sup> of February, where he will talk about the role of measurements in robotics for smart agriculture.

We wish Prof Lamonaca and all Brias Scientists success in supporting their research on the reaching of UnGoals.

**ACTA IMEKO BEST REVIEWERS OF 2023**



From the Editor in Chief of Acta: "It is my duty and pleasure to thank all of you for supporting the Journal as Readers, Authors, Reviewers, and Editorial Board Members. Thanks to you, Acta IMEKO is building its reputation further. Indeed,

according to Scientific Journal Ranking in the last year, the Journal passed from the fourth to the third quartile; also, in the instrumentation

category, it is stable in the third quartile in both the Electrical and Electronic Engineering and Mechanical Engineering fields.

In recognition of his outstanding service as a Reviewer, the Best Reviewer Award goes to Prof. Carmelo Scuro for his work in 2023.

It is also my pleasure to announce the names of all the Top Reviewers of 2023:

Tatjana Tomić, Laura Fabbiano, Álvaro Silva Ribeiro, Domenico Luca Carni, Fabio Leccese, Cristian Zet, Gabriele Bocchetta and Rosario Schiano Lo Moriello."



Carmelo Scuro currently serves as a Research Fellow in Mathematical Physics at the Department of Physics, University of Calabria, Italy.

He earned his master's degree in Building Engineering and a Ph.D. in "Science and Engineering of the Environment Construction and Energy" from the University of Calabria in 2012 and 2017, respectively.

Carmelo has held the position of a Visiting Researcher at Bergische Universität Wuppertal, Fakultät für Mathematik und Naturwissenschaften IMACM, Wuppertal, Germany, and at ISIS Neutron and Muon Source, STFC Rutherford Appleton Laboratory, IMAT neutron imaging beamline, Harwell Campus, Didcot, Oxford, UK. Throughout his career, he has been a professor of Rational Mechanics, Mathematical Method 2, Mathematical Methods and Models, Mathematical Physics, and Structural Mechanics. Carmelo is a member of two Scientific Societies: INdAM (National Institute of

Higher Mathematics Francesco Severi), GNFM (National Mathematical Physics Group), Section of Continuum Mechanics, and IMACS International Association for Mathematics and Computers in Simulation.

His research spans Mathematical Physics, Applied Mathematics, Computing in Mathematics, Natural Sciences, Engineering, and Medicine, with recent papers covering Acoustic Emissions, Mathematics, Structural Analysis, Discrete Mathematics, Dynamic Analysis, Finite Element Modeling, Mathematical Modeling, Nonlinear Analysis, Genetic Algorithm, and PDE.

His scientific output comprises 23 peer-reviewed papers published in journals such as Nature Scientific Reports, Mathematics, Frontiers in Robotics and AI, Regular and Chaotic Dynamics, Construction and Building Materials, IEEE Instrumentation and Measurement Magazine, Measurement: Journal of the International Measurement Confederation, Acta IMEKO, Composites Part B: Engineering, International Journal of Computing. Additionally, he has authored five peer-reviewed proceedings of international conferences, accumulating 731 citations on Scopus with an H-index of 17."



Tatjana Tomić, PhD, is a laboratory expert in the field of complex analytical techniques in liquid and gas chromatography. She works on analyses of petroleum products, biofuels, water, soil and waste.

Her working scope includes method development and QA&QC.

She is an external assessor for the Croatian Accreditation Agency (HAA) for ISO 17025 standards and a regular Scientific Council for Oil member of the Croatian Academy of Sciences and Arts.

Tatjana Tomić is the Chair of TC24, dedicated to Chemical Measurements.



Laura Fabbiano received her MS and PhD degrees in electrical engineering at the Polytechnic of Bari University, Italy, with her thesis in Electrical measurements.

She holds the Associate Professor position in Mechanical and Thermal Measurements at the Department of Mechanics, Mathematics and Management, Polytechnic of Bari, University.

Her scientific interests are related to research topics in the field of measurements, in particular, measurements science, sensors and transducers, calibration, laser technology and thermography, non-contact measurement techniques, and acoustics and vibration measurements. In addition, she deals with uncertainty theory. Since 2010, she has focused her scientific interests on mechanical, thermal, and fluid dynamic measurements regarding flow sensors and vibrations induced by fluid turbulence onto the pipe walls, mostly making use of laser instrumentation.



Fabio Leccese is an Associate Professor in the Electrical and Electronic Measurements scientific sector and Head of the Laboratory of the same name at the Department of Science of Roma Tre University in Rome, Italy, where he carries out research on the metrological implications of innovative integrated systems and on high accuracy measurement chains.



Prof. Domenico Luca Carnì achieved a master's degree in Computer Engineering from the University of Calabria in 2003. In 2006, he received a Ph.D. degree in Systems and Computer Engineering from the same

university. Currently, he has joined the Department of Informatics,

Modeling, Electronics and Systems (DIMES), at the University of Calabria, as an Associate Professor of Electric and Electronic Measurements. He is the head of the measurement information processing laboratory at the University of Calabria, which operates in the fields of synchronisation, digital signal computing, infrared image processing, automatic measurement systems, the measurement of telecommunication systems and signals, and measurement for biological parameter evaluation.



Cristian Zet graduated from the Faculty of Electronics and Telecommunications from "Ghe. Asachi" Technical University from Iași in 1992. He obtained a PhD in Electrical Engineering in 2002. He is a Professor at the Department of Electrical Measurements within the Faculty of Electrical Engineering.

The central theme for his doctoral studies was the metrology of data acquisition systems, in which he proposed several solutions to increase measurement accuracy and conducted studies on their effect on errors.

In 2002, he received a 2-year postdoctoral fellowship in Germany at GSI Darmstadt, during which he developed an automatic irradiation system with ions of polymeric films (virtual instrumentation, FPGA, digital signal processing, system electronic, mechanical) and an automatic electrodeposition system for the production

of nanowire metallic (virtual instrumentation, specific hardware, and electrochemical cell).

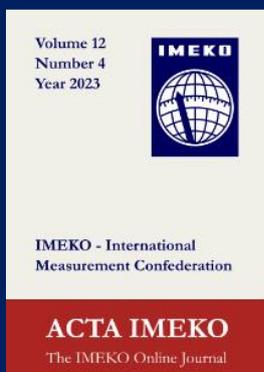
His managerial experience was acquired through the 7 research projects won at national competitions in which he was either director (CNCSIS 586/2005, PNII 72157/2008, PN II 63/2012) or scientifically responsible from partner institution (CEEX 21/2005, CEEX 1/2006, D1-1060 / 2007, PN II 159/2012). He was also a member of the research teams of 22 other projects (CNCSIS, CEEX, PN II).

The scientific activity materialised through more than 100 scientific papers, of which 49 papers are ISI indexed, 9 are published in impact factor journals, and 3 are inventions, of which 1 is international.

Among the areas of expertise, he is interested in electrical and electronic measurements, sensors, nanotechnologies, data acquisition, analogue and digital signal processing, digital circuits and microprocessors, and virtual instrumentation.

*Website: <http://iota.ee.tuiasi.ro/~czet/>.*

## THE LATEST ISSUE OF ACTA IMEKO



The latest issue of our open-access online Journal, Acta IMEKO, is finished and published now. The issue No. 4 of 2023 concludes the 12<sup>th</sup> volume of 2023. There are 42 research papers in this issue, accompanied by three editorials.

Besides the introduction to the General Track, the other two editorials introduce the "Thematic issues" with the titles Editorial to selected papers from the 2022 IMEKO International Conference on 'Metrology for Archaeology and Cultural Heritage'-2<sup>nd</sup> part and Introductory notes for the Acta IMEKO thematic issue on Measurements and Applications in Veterinary and Animal Sciences.

A table of contents is available on our [Acta IMEKO](#) page for a quick overview.

## INTRODUCING MICHELA SEGA



My name is Michela Sega, and I am the Chairperson of the IMEKO TC8 devoted to Traceability in Metrology. I am a chemist and hold a PhD in Chemical

Sciences. I am currently the head of the Scientific Division "Applied Metrology and Engineering" of the National Institute of Metrological Research (INRiM), the Italian National Metrology Institute.

I have been attracted to scientific disciplines since early childhood. I was very much in love with nature and liked watching documentaries on television and reading books about wildlife and animals. During primary school, whenever I was asked about what I would like to do later, my answer was always to become "A scientist". My passion for biology and natural sciences started very early, and my family, particularly my father, always supported me strongly. After compulsory school, I decided to attend a science-based high school. During the five years, I had an excellent biology and chemistry teacher. Thanks to her, I discovered my passion for chemistry, which led me to choose the chemistry faculty at the University of Torino, Italy, my home town. While at the university, I could carry out many experimental activities alongside the theoretical lessons. This allowed me to select an internship at the Department of Analytical Chemistry, followed by a PhD in Chemical Sciences within the same Department, on experimental activities focused on environmental issues. I found the experience very exciting: seeing the impact of the work carried out within the laboratory on the outside world was really electrifying. This further strengthened my will to continue in the "world of science".

I got in touch with metrology by chance. In 1997, they sought a chemist at the Italian Institute of Metrology "Gustavo Colonnetti" (IMGC-CNR) in Torino.

Metrology in chemistry was born in those years at the European and world levels. In IMGC, they were planning to start an activity on gas metrology. I decided to take on the challenge and meet the person in charge of such an initiative. That was the first time I met Margherita Plassa, and I had no idea how much she would change my life. Under her supervision and guidance, I started my grant on metrology for gases in 1998.

My contact with IMEKO dates back to that time: my experimental work in preparation for a contribution to be presented in the upcoming 16<sup>th</sup> International Conference IMEKO TC3/APMF '98 in Taejon, Korea, was the core part of my first metrological publication. In the following years, we set up a laboratory, and from the very beginning, Margherita Plassa introduced me to regional and international metrology organisations. In 2001, I signed my permanent employment contract at IMGC. A few months later, I was appointed as the Italian Contact Person in EURAMET (back then EUROMET), the European Association of National Metrology Institutes, taking over from Margherita, who would retire. When, in 2006, IMGC merged with IEN to constitute the National Institute of Metrological Research (INRiM), the Italian National Metrology Institute, I was not able to follow very closely the birth of the new institute due to a severe accident that kept me away from my desk for about a year. Upon my return, my involvement continued in metrology for gas analysis and partially also in organic analysis, considering the environmental issues as the core of my work. I also had the opportunity to continue interacting with international metrology organisations. I am currently the Italian Delegate in EURAMET, a member of the EURAMET Board of Directors and the Italian Contact Person in the Gas Analysis Working Group and Isotope Ratio Working Group of CCQM, the CIPM Consultative Committee on Amount of Substance - Metrology in Chemistry and Biology. At INRiM, I am the head of the Scientific Division "Of Applied Metrology and Engineering," which has, among its activities, also metrological support for societal challenges like environmental and climate issues.

My involvement in IMEKO activities has accompanied me throughout my career. Carlo Ferrero introduced me to the IMEKO world; he was the Chair of IMEKO TC8 "Traceability in Metrology". TC8 has always been a transversal TC, being metrological traceability, a property that applies to every measurement result, and the importance of metrology in chemistry and biology was increasing. For this reason, as an expert in metrology in chemistry, he asked me to support him in various IMEKO international events. In 2009, I chaired a TC8 scientific session in the IMEKO XIX World Congress "Fundamental and Applied Metrology" and, in the following years, covered important roles in the organisations of the IMEKOTC8 International Workshop "Traceability to Support CIPM MRA and Other International Arrangements" (Torino, Italy, 2007) and of the three-day IMEKO Workshop "Metrological Traceability in the Globalisation Age" (Paris, France, 2011), where the topics related to chemistry, environment and health were added to the traditional fields of metrology. In 2015, after four years of serving as Vice-Chair I was appointed TC8 Chair.

Due to the retirement of many former TC8 members, there were difficulties to face, and the first years were not easy at all. Even in such circumstances, I did not feel alone in IMEKO: the President (at that time President-Elect), Prof. Frank Härtig and the Secretariat helped me find solutions. I was very lucky to have the support of many colleagues, among them Nieves Medina and Thomas Wiedenhöfer, who, acting as Vice Chair and Scientific Secretary, respectively, were the pillars on which the restructuring of the TC had started. This renovation process is not over yet, but we recruited new and enthusiastic members and obtained significant results among all the organisation of the first IMEKO TC8 event in November 2022, after many years, the online workshop "Traceability the Backbone of Metrology". In 2023, another significant result was achieved: the IMEKO TC8, TC11, and TC24 Joint Conference hosted on the Portuguese Madeira Island in October.

The pervasiveness of the TC8 topic, i.e. metrological traceability, in the various scientific fields and the excellent cooperation

within IMEKO, allowed me to be also involved in the organisation of events of relevance to other TCs, such as the successful MetroSea and IMEKOFODS international congresses, thanks to the very fruitful interactions with Pasquale Daponte, who served as IMEKO President, and Giovanna Zappa.

Since its foundation, IMEKO has been a lively place where people from different scientific and technological backgrounds and from all over the world meet and share expertise and views. During the Covid pandemic, meeting in person became impossible; however, the IMEKO activities did not stop, thanks also to the constant and fruitful support from the Secretariat. With the return to normality, online meetings have been replaced by hybrid ones, and face-to-face events are possible again. We are waiting for the World Congress to be held in Hamburg in August 2024, where there will be the opportunity to gather together the complete IMEKO family.

For a person who was born, grew up, was educated and has lived in the same city, working in a Research Institute and participating in the work of international organisations like IMEKO allows to travel around the world, meet people and learn about different cultures and traditions. This is something that I appreciate a lot and pursue also in my free time, planning trips to foreign countries. It also perfectly combines my love for nature and wildlife, which has not changed. Whenever I can, I try to plan trips to wilderness areas. African countries are my favourite destinations, and spending some days in the middle of the savannah is the best experience.



*The Matobo National Park in southern Zimbabwe.*

*Written by Michela Segà TC8 Chairperson*

METTLER TOLEDO AT THE IMEKO WORLD CONGRESS 2024 IN HAMBURG



METTLER TOLEDO is a leading global manufacturer of precision instruments. The company is the world's largest manufacturer and supplier of weighing systems for laboratories, industry and the food trade. Our weighing systems are used in many different industries, from pharmaceuticals and chemicals to food and manufacturing industries. Our weighing solutions help our customers improve the quality of their products, increase productivity and reduce operating costs.

METTLER TOLEDO works closely with its customers to develop customised solutions tailored to their specific needs. We understand that every customer is unique and needs an individual solution. That's why we offer a comprehensive range of solutions to meet the specific needs of our customers.

The company's history goes back to 1901 when Toledo Computing Scale and Cash Register Company was founded in the US. Since then, it has taken a leading role in the weighing and measurement industry. Today, METTLER TOLEDO employs more than 30,000 people in more than 100 countries worldwide and operates a global network of sales and service centres to support customers worldwide.

At the IMEKO World Congress, we will present selected solutions for tank scale calibration and automated weighing in the laboratory.

### INNOVATIVE RAPIDCAL™ TANK SCALE CALIBRATION

METTLER TOLEDO recently launched a new calibration method for tank scales called RapidCal. Insights into this calibration method, its metrological traceability and measurement uncertainty are given by Dr. Daniel Eisenbarth in an oral presentation.



RapidCal is the ideal calibration method for most tank, reactor, hopper and silo scales, saving time and money. METTLER TOLEDO's service team in Germany recently gained ISO 17025 (DAkkS) accreditation for this method. Traditional calibration methods for tank scales can be time-consuming and expensive, and they may lead to low accuracy, while RapidCal is an economical calibration method that is traceable to the SI unit of mass and does not require test weights or purified liquids.

Furthermore, it eliminates the risk of tank interior contamination by avoiding the expensive and risky process of material substitution. The system is highly portable and requires minimal preparation time and effort. The calibration force is applied by hydraulic cylinders and measured by highly accurate and traceable reference load cells. Since the scale is loaded similarly to normal operation, the method accounts for piping effects and other deformations in the supporting structure. Repeatability testing is also included in the RapidCal calibration process, which is often neglected with other calibration methods due to time limitations and high efforts.

### XPR AUTOMATIC BALANCE WITH AWI CERTIFICATE



Today's laboratories are handling higher throughput and smaller sample sizes than ever before. The METTLER TOLEDO XPR Automatic Balance, which incorporates state-of-the-art active machine learning, continues to revolutionise weighing to deliver the accuracy, safety, and ease of use the current market demands.

Now, with the AWI EU-Type evaluation certificate for the XPR Automatic Balance with a Sample Changer, we can open the door to new applications.

The preparation of pharmaceuticals, quality control in pharmaceutical laboratories and the filling of bottles for sale are regulated in Europe. The weighing instruments used are subject to Legal Metrology. Automatic filling for sale requires an EU-TEC according to the Measuring Instrument Directive (MID) 2014/32/EU; the normative document is OIML R51. According to OIML R51, the smallest net weight is  $\geq 100\text{mg}$ . METTLER TOLEDO is the first manufacturer to receive an EU-Type evaluation certificate for filling up quantities down to 1mg. OIML R51 is an international normative document and is under revision. METTLER TOLEDO has requested that the lowest minimum sample weight be changed from 100 mg to 1mg. The application has already been accepted. This means that in the future, METTLER TOLEDO can apply for AWI Type Evaluation Certificates for Automatic Balance in other markets outside of Europe.

*Written by Carmen Wiederuh, Ferenc Muranyi and Dr. Magdalena Ulman*

## "LADIES PROGRAMME" FOR CONFERENCE ORGANISERS FROM THE 1960'S



*(Not IMEKO related picture)*

The preparation for the recent 65<sup>th</sup> IMEKO anniversary led to some "early days" research and the sorting through of a large quantity of some remarkably well-preserved materials from the 1960s, all in the Secretariat's possession.

The earliest versions of IMEKO's own "How to Organise a Conference" were inspired by several external literature sources. According to these, in the 1960s, a successful conference required a successful ladies' programme. The following recommendations from the 60s allow a glimpse of what it looked like back then.

"The primary purpose of including the ladies is to improve conference attendance. If the conference location is such that it offers either pleasant recreation or good shopping, the wives may be quite willing to come along, and by that, influence the overall turnout.

A ladies' programme should be taken very seriously, as it is more than just keeping the conference attendees' wives occupied.

It is a chance to make new acquaintances and make the trip more memorable.

According to the suggestions in the '60s, the secret of definite success is to appoint a Chairwoman exclusively to this task.

She leads a committee, investigates activities, handles correspondence, and dedicates all her time to this during the event. Her committee should meticulously organise each planned event's details, including tickets, transport, printing, and registration, and hold a special reception for the arriving ladies.

The "Hospitality suite" at the conference hotel serves as the ladies' room, registration, information and social centre. Women here can meet informally for coffee, tea, bridge, and conversation. A "ladies only" lecture may be scheduled to give the women a clear picture of why the conference is vital to their husbands.

The social director may greatly assist if the conference site is a resort hotel. He may help organise card parties, fashion shows, sightseeing tours, or "classes" on diverse subjects such as art, music, dancing, flower arranging, snapshot posing, or proper use of household appliances.

If the conference is near a large city, additional activities may include theatre and concert parties, boat rides, radio and television studio visits, museum trips and shopping.

A Chairwoman should be given a list of registrants to the "Ladies program" a few weeks before the conference so that she may send a letter of welcome outlining the proposed activities and suggesting wardrobe needs...."

*The world has changed....*

THE 4<sup>TH</sup> INTERNATIONAL DCC CONFERENCE ON FAIR PRINCIPLES

The 4<sup>th</sup> International DCC Conference on **DCC for FAIR principles** in the quality infrastructure will take place between 27 and 29 February 2024. The conference will unite developers, users and scientists worldwide to discuss machine-readable data and metadata in the scientific and quality infrastructure. The major theme will be the uptake and further development of digital calibration certificates (DCC).

The conference is free of charge for speakers and listeners, open to everybody, and completely online/virtual.

#### Background

Conventional calibration certificates will soon be a thing of the past. Metrology institutes and calibration laboratories worldwide are establishing "digital calibration certificates" (DCC) instead of analogue versions. Above all, machine readability would significantly support manufacturing and quality monitoring processes, where digitalisation is becoming increasingly prevalent.

Automatically running tests, quality certificates that can be retrieved anywhere in the world quickly developed assessment methods for new products, and more...

Digitalisation offers enormous potential for quality infrastructure (QI) to streamline and accelerate processes.

Therefore, establishing DCC for metrology is just one piece of the larger puzzle that forms the digital QI of the future.

#### Scope

The digitalisation of the quality infrastructure (QI) is much more than the simple transfer of contents of the analogue processes and certificates to digital counterparts. Information in a digital QI should be readable and interpretable by machines. This is achieved by storing the data in clearly defined formats. Hence, this conference invites all who are interested in building the scientific and quality infrastructure on top of FAIR principles:

- Recent advances regarding machine-actionable information and data in the quality infrastructure
- Use cases and implementations of digital certificates and reports
- Software solutions for the integration and uptake of FAIR data in the quality infrastructure
- Concepts and frameworks for the interoperability in a digital quality infrastructure

See for further details:

[International Programme Committee](#)

This event is organised by the Physikalisch-Technische Bundesanstalt-Germany and supported by IMEKO.

## THE SECOND GULF METROLOGY FORUM



The Second GULF Metrology Forum, "Metrology for Sustainability", will be held from 22-23 April 2024 in Dubai, United Arab Emirates.

This highly anticipated event is set to take place under the patronage of the Ministry of Industry and Advance Technology (MOIAT), United Arab Emirates. The Forum is organised by the Ministry of Industry and Advance Technology (MOIAT) and the GULF Association for Metrology GULFMET. GULFMET stands for the Gulf Association for Metrology, a Regional Metrology Organisation. Its members are the National Metrology Institutes (NMIs) of seven countries: the United Arab Emirates, the Kingdom of Bahrain, the Kingdom of Saudi Arabia, the Sultanate of Oman, the State of Qatar, the State of Kuwait, and the Republic of Yemen. The event aims to provide a platform for experts to share their knowledge and ideas in the field of metrology to promote the exchange of experience among executives, experts, specialists, and technical personnel directly involved in the field of metrology.

The Second Gulf Metrology Forum has been organised in response to the latest international developments in metrology. It aims to align Gulf policies, practices, and trends in metrology with global developments in measurement techniques and their industrial applications under the theme "Metrology for Sustainability".

The Forum, divided into 4 sessions, will feature a wide range of activities, including keynote speeches, expert panel discussions, and technical presentations. The event will bring together professionals, scientists, researchers, and regulators to discuss the latest developments and innovations in metrology.

The four sessions are:

1. Opening ceremony and keynote speakers
2. Metrology for Sustainable Environment
3. Metrology for Sustainable Manufacturing Industries
4. Metrology for Sustainability: The Strategic Direction of the Gulf Countries.

For more information, visit [GULFMET](https://www.gulfmnet.org).

### INTRODUCING ENG. OMAR KANAKRIEH IMEKO'S CONTACT WITH GULFMET



Eng. Omar Omar Kanakrieh received a bachelor's degree in Mechanical engineering in 1984. He worked in Jordan for almost 13 years as a standards Engineer, then moved to the private sector and worked with a consultancy firm as a QMS consultant. He is an IRCA Registered Quality Management System Lead Auditor and a Certificated Technical Auditor Laboratories Accreditation.

Currently, he deals with Standardization and Metrology issues in the GCC Standardization Organization / Saudi Arabia. He is involved in GULFMET activities as a Regional Metrology Organization (RMO). To contact Eng. Omar Kanakrieh: [okanakrieh@gso.org.sa](mailto:okanakrieh@gso.org.sa)

## EUROLAB PRIORITIES & ACTION PLAN 2024

EUROLAB concluded 2023 with various initiatives, collaborative actions and compelling projects that underline our commitment to supporting the enhancement of laboratory best practices. The strength of the activities we bring with us this year lies in the joint projects we've embarked on with various stakeholders, exploring relevant fields such as food quality, digitalisation, and sustainable laboratory practices.

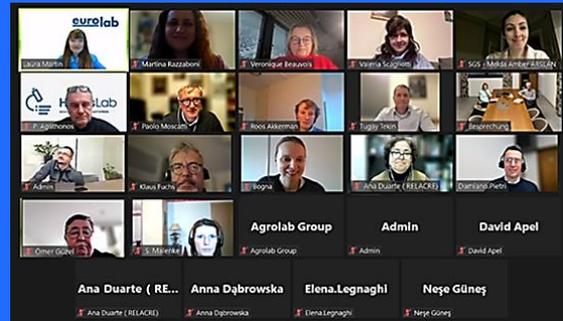


A great example of collaboration with our stakeholders is certainly the [EUROLAB National Members' Meeting \(NMM\)](#) and [IMEKO Joint Conference TC8, TC11, TC24](#), which took place on 11-13 October 2023 in Funchal, Madeira (Portugal). The meetings and events brought insightful discussions on the key issues and challenges for both communities, allowing us to further expand our collaboration with various members and stakeholders.

The meetings also represented the first step in restructuring the Technical Committee on Quality Assurance in Testing and Calibration (TCQA), which will allow our experts expanded opportunities to debate and address crucial technical matters.

The EUROLAB community will be asked to engage in the newly founded Working Groups on Cook Books and Technical Reports, Accreditation and Standardisation, Digitalisation, and Sustainability to provide a better working structure for our experts and additional engagement opportunities with our partners and their technical groups.

In 2023, EUROLAB started the preparation of various proposals for EU-funded projects, in particular, to address the dynamic challenges associated with the evolution towards the Lab of the Future. These projects, aimed at offering guidance and training to laboratories and practitioners, represent our dedication to staying at the forefront of industry transformation and supporting our members in the challenges that they are facing.



Our international outreach continues to expand as the training opportunities are offered to our members and interested audiences. At the recent [EUROLAB webinar "Build a sustainability culture in your lab"](#), participants could learn and interact with the invited speakers, including high-level representatives from the European Commission, ISO, My Green Lab,

EUROPEN, ECOS and various laboratory practitioners bring their experience from different fields and countries in the field of sustainability.

The three successful webinars organised this year are just an anticipation of the extensive training and workshops planned for 2024, which will range from very technical topics critical to laboratory practitioners to broader policy and standardisation developments.

The activities organised in 2024 will align with the renewed priority areas of focus, including policy developments in ESG and sustainability, food quality, medical devices and energy consumption, metrology and calibration, accreditation and standardisation, digitalisation and the Lab of the Future developments.



An example of collaboration and engagement with members and stakeholders on these topics is the [Labsummit® 2024](#), taking place from 16 to the 18th of May 2024, in Coimbra, Portugal, jointly organised by RELACRE, ISQ and Ambidata, with EUROLAB institutional support.

This international event will provide a conducive environment for learning, collaboration, and innovation in the field of laboratories, encouraging the exchange of ideas and experiences among participants.

The event will feature expert lectures, successful case presentations, panel discussions, exhibitors, workshops, and networking opportunities.

To be kept updated on EUROLAB activities, you can follow us on [LinkedIn](#) and check our [website](#) for all the latest news. To be added to our mailing list, please contact [info@eurolab.org](mailto:info@eurolab.org)



#### ABOUT THE AUTHOR: LAURA MARTIN, EUROLAB SECRETARY GENERAL

Laura Martin has been with EUROLAB, fulfilling various responsibilities since September 2013. In 2022, she was elected EUROLAB Secretary General during the EUROLAB General Assembly. Previously, she worked for DG CONNECT at the European Commission and other international organisations based in Brussels, taking on various roles such as communications manager and international affairs manager. She holds a diploma in Journalism, a master's degree in Communications Studies, and a bachelor's in Modern Languages and Translation.

## FARAWELL TO DR STEFFEN RUDTSCH



Our colleague, friend, and member of IMEKO TC12, Dr Steffen Rudtsch, passed away on the 20<sup>th</sup> of January 2024 after a short, serious illness.

It is a huge loss for all who had known him.

Dr Steffen Rudtsch, 1962 - 2024, was born on the 8<sup>th</sup> of March, 1962, in Briesen, Germany. He studied Physics at the University of Leipzig. He got his Ph.D. in physics from Brandenburg Technical University, Cottbus, where he was a Graduate Research Assistant, later a Postdoctoral Fellow, and the Head of the Laboratory for Thermophysical Property Measurements. At that time, he became a laureate of the NETZSCH-Award of the European Conference on Thermophysical Properties. From 1999, he was at Physikalisch-Technische Bundesanstalt (PTB) Braunschweig and Berlin and became the Head of Department 7.4 "Temperature". He was also a Guest Researcher at the National Institute of Standards and Technology (NIST), Gaithersburg, USA, and the National Institute of Metrology (NIM, China).

His research was focused on High-precision contact thermometry for the definition and dissemination of the International Temperature Scale of 1990 (ITS-90), technical temperature measurements in particular using contact thermometric and acoustic methods, application of techniques for the measurement of thermophysical properties and development and application of heat-flux sensors. He was a peer-reviewer for Thermometry Laboratories within CIPM-MRA in Europe, Asia and America, an assessor for the German Accreditation Services (DAkkS) and SAS (Switzerland) auditing many laboratories in Germany and abroad, promoting accredited

dissemination of temperature, and participated in many metrology PTB-organised development programs in emerging countries.

His expertise was highly esteemed worldwide, and he accepted engagements and functions in the most prominent metrological organisations and bodies: CCT, Working groups of the Consultative Committee for Thermometry (CCT-WG-KC, CCT-TG-GoTh and CCT-TG-CCh-ET); EURAMET, Chair and PTB contact person of Technical Committee for Thermometry, Head of TC-T Strategy Group, CMC Revision Group; COOMET, Euro-Asian Cooperation of National Metrological Institutions, TK 1.10 Thermometry and Thermophysics; DIN, Chair NA 152-01-05 AA "Thermodynamics and Optical Radiation". He was the author of numerous scientific papers in refereed journals, coauthor of 3 books, and reviewer for scientific journals and conferences: Int. J. of Thermophysics (where he was also Associate Editor), Metrologia, Meas. Sci. Technol., J. of Res. of NIST, Phys. Chem. Eng. Data, Thermochim. Acta, J. of Therm. Anal. Calorim., High Temperatures - High Pressures, Measurement, Int. J. of Therm. Sci., Fluid Phase Equil., JSSS, MAPAN, tm-Technisches Messen, and may others. We remember his engagement in IMEKO TC12 conferences TEMPMEKO 2003, 2006, 2009, 2013, 2017, and 2019, as author, reviewer, IPC member and session chair.

Besides that, we admire his contributions to metrology; Steffen will be missed for his kind nature, friendly character and readiness to help and participate in all our efforts with his expertise.

He shall be held in our memory. May he rest in peace.

*On behalf of IMEKO TC12  
Davor Zvizdic, Chair*