

Message from Chairman

On behalf of the Organizing Committee, I am pleased to welcome you to the 10th *International Conference on Sensors and Electronic Instrumentation Advances (SEIA' 2024)* and 6th *International Conference on Microelectronic Devices and Technologies (MicDAT' 2024)*, which will be held in Ibiza (Balearic Islands), Spain.

This conference umbrella provides a unique platform for presentations, discussions, and information exchange, as well as the latest theoretical and experimental research results in the relevant fields. They bring together researchers, developers, and practitioners from various domains, including international scientists and engineers from universities, research institutes, and companies, to present and discuss the latest achievements in sensors and microelectronics.

In addition to technical discussions, an important part of these events is the opportunity for participants to meet colleagues and potential partners for joint research projects. This aspect of our IFSA events has always received high marks, and we continue to pay special attention to it. During coffee breaks, the welcome cocktail, the gala dinner, and the farewell cocktail, participants will have the chance to make new social connections.

The conferences are organized by the *International Frequency Sensor Association (IFSA)*, one of the leading professional associations serving the sensor industry and the academic community since 1999, in cooperation with the IFSA Group's company - IFSA Publishing, S.L. (Spain), and media partners — MDPI open access journals: *Sensors* (ISSN 1424-8220) and *Micromachines* (ISSN 2072-666X).

We are confident that your participation in these conferences will bring you both professional satisfaction and inspiration, as well as an enjoyable experience. Welcome to SEIA' 2024 and MicDAT' 2024 !

Prof., Dr. Sergey Y. Yurish
Chairman

Conference Venue

Both conferences will take place on 25-27 September 2024 in the *Ibiza Twiins Hotel* in the *Botafoc* Conference Room.

Insurance and Liability

The conferences' organizers do not accept responsibility for any individual, medical, travel or personal insurance policies as necessary.

Registration

The Registration Desk is open in the *Ibiza Twiins Hotel*:

- Tuesday, 24 September, 20:00-21:30 (in the Welcome Cocktail area)
- Wednesday, 25 September, 8:45-18:00 (near the conference room *Botafoc*)
- Thursday, 26 September, 8:45-18:00 (near the conference room *Botafoc*)
- Friday, 27 September, from 8:45-12:00 (near the conference room *Botafoc*)

Language

The official language of the Conferences is English. There will be no simultaneous interpretation.

Conference Identification Tag

The Organizing Committee request that you wear your identification tag (badge) at all times during the conferences. Your conference identification tag will serve as your admission to all conference paper presentation sessions and social events.

Coffee/Tea Refreshment

Coffee/tea will be served in the hotel's breakfast restaurant at the morning, and near the Conference Room *Botafoc B* after the lunch time. Please check the time table on page 8.

Special Issues of Journals

Extended papers from the conferences will be published in special issues of open access journals: *Sensors & Transducers* (ISSN: 2306-8515, e-ISSN 1726-5479) in both: print and electronic formats or *MDPI Micromachines* (ISSN 2072-666X) in electronic format. All authors of selected papers will be invited after the conferences by the Chairman to submit their extended papers into the appropriate journal.

Chapters in Book Series

Authors will be also invited to submit book chapters for the 'Advances in Sensors', Book Series, Vol. 9, 'Advances in Biosensors', Book Series, Vol. 4, 'Advances in Measurements and Instrumentations', Book Series, Vol. 3 or 'Advances in Microelectronics' Book Series, Vol. 4. These open access books volumes will be published at the end of 2024 – beginning of 2025.

Organizing Committee

Chairman

Prof., Dr. Sergey Y. Yurish (*IFSA, Spain*)

Advisory Chairmen

Prof. Vincenzo Piuri (*Universit' degli Studi di Milano, Italy*)

Prof. Vijyakumar Varadarajan (*La Trobe University, Australia*)

Prof. José Miguel Pereira (*Instituto Politécnico de Setúbal, Portugal*)

Prof. George Kiriakidis (*European Materials Research Society France*)

Prof. Gennaro Conte (*University Roma Tre, Italy*)

Prof. Arkady Zhukov (*University of the Basque Country, Spain*)

Dr. Pavel Shuk (*Saint-Gobain NorPro, USA*)

Dr. Marius Gheorghe (*Ideal Aerosmith, Inc., USA*)

Dr. Paolo Dabove (*Politecnico di Torino, Italy*)

Conference and Publication Manager

Mrs. Tetyana Zakharchenko (*IFSA Publishing, S.L., Spain*)

Welcome Cocktail

24 September 2024, Tuesday (20:00-21:30), *Ibiza Twins Hotel*, outdoors restaurant *La Cascada*. Do not miss this opportunity to say the first "hello" to attendees and committee members and enjoy the Night Show.

Gala Dinner

26 September 2024, Thursday (20:00-23:30). The Gala Dinner will take place in the *Ibiza Twins Hotel*, Dalt Vila (near the *Botafoc B* conference room). Do not forget your ID tag (badge) and ticket.

Farewell Cocktail

27 September 2024, Friday (15:30-16:45), *Ibiza Twins Hotel*, Conference Room *Botafoc B*. The Farewell Cocktail will be followed by the Poster and Closing Sessions.

Conferences' web sites:

- SEIA' 2024: <http://www.seia-conference.com>
- MicDAT' 2024: <http://www.micdat-conference.com>

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Keynote Speakers



Prof., Dr. Sergey Y. Yurish
*International Frequency Sensor Association
(IFSA), Barcelona, Spain*

International Frequency Sensor Association (IFSA): 25 Years of Innovation and Excellence

Abstract: This keynote presentation will highlight major milestones, technological breakthroughs, and the International Frequency Sensors Association's role in shaping the future of sensor innovations, emphasizing its commitment to excellence and continuous improvement in the sensor industry. Founded in 1999, IFSA has been a pivotal organization over the past 25 years fostering advancements in sensor research, development, and applications. The presentation will cover the association's, major milestones and technological breakthroughs, including the development of intelligent and smart sensors, and the chip integration technologies. The keynote will also emphasize the association's forward-looking vision, exploring future challenges and opportunities in sensor technology. A forward-looking segment of the presentation will address emerging trends and future challenges in sensor and microelectronic technologies.

Short Biography: Prof., Dr. Sergey Y. Yurish is the president of International Frequency Sensor Association (IFSA) - one of the major professional associations serving the sensor industry and academia since 1999. He is an editor-in-chief of the international peer-reviewed journal *Sensors & Transducers* and editor of several open access multivolume Book Series. Dr. Yurish has obtained his PhD degree in 1996 from the National University Lviv Polytechnic (UA). He has published more than 180 articles and papers in international peer-reviewed journals and conference proceedings. Dr. Yurish holds 9 patents and is an author and co-author of 12 books. He has delivered more than 90 speeches, tutorials and keynote presentations at industries, peer institutions, and professional conferences in 30 countries. Dr. Yurish was a Marie Curie Chairs Excellence Investigator at the Technical University of Catalonia (UPC, Barcelona, Spain) from 2006–2009, where he led and developed one of the most successful projects in the UPC on Smart Sensors Systems Design (SMARTSES). Dr. Yurish has over 30 years of research and academic experience, during which he has developed numerous international projects in frames of various programmers, including NATO, FP6 and FP7.



Dr. Daewon Ha
*Samsung Electronics, Gyeonggi-Do,
South Korea*

Challenges and Opportunities in Future Innovative Semiconductor Technologies for Next Decades

Abstract: Semiconductor market has been continuously growing for the past 50 years and is projected to accelerate its previous growth trajectory thanks to the recent explosion of generative AI, IoT, 5G, automotive and so on. In order to satisfy the requirements for memory, storage, and computation, however, we will face and overcome many challenges from an extremely small physical dimension of silicon devices, complex and expensive fabrication processes. Since these enormous opportunities are strongly dependent on technological advancements, the key is relentless technical innovations in materials, processes, structures and equipment toward improving PPA (power-performance-area) in a cost-effective way through collaborative and shared efforts among academia, industry and government. To this aim, this paper will review the history of technology evolution, and discuss technical directions together with promising innovative candidates of DRAM, Flash, Logic and Package for next decades.

Short Biography: Daewon Ha received Ph.D. degree in electrical engineering and computer science from the University of California, Berkeley, in 2004. In 1995, he joined Samsung Electronics, Co., Ltd., Korea where he was involved in the development of world-first fully working 1 Gb DRAM, and Logic 10 nm and 5 nm technology nodes using FinFET. Currently, he is now in charge of advanced device research lab including DRAM, Flash, Logic and emerging devices as a head of lab in semiconductor R&D center. He has published more than 70 technical papers and holds more than 80 issued and pending patents on memory technology. Dr. Ha served as an editor of IEEE EDL from 2012 to 2020, a sub-committee member of the International Electron Devices Meeting (IEDM) from 2010 to 2012, and the International Symposium on VLSI Technology, Systems and Applications (VLSI-TSA) from 2008 to 2010.



Mr. Yusuf Yilmaz

*German Institute for Standardization (DIN),
Germany*

Facilitating the Market Transfer of Sensors for Forensic Applications Through Standardization

Abstract: The presentation outlines the RISEN project, funded by the European Union's Horizon 2020 program, which aims to enhance forensic investigations through the development of advanced sensors. The project, coordinated by ENEA in Italy, involves 22 partners and has a four-year duration with a budget of 7 million euros. Key goals include optimizing the detection, visualization, and interpretation of forensic traces, and improving the marketability of these technologies through standardization. The presentation details the development of two GEN/CENELEC Workshop Agreements (CWAs) focused on sensor APIs and best practices for positioning forensic traces in digital crime scene reconstructions. It emphasizes the importance of standardization to facilitate market transfer, enhance interoperability, and provide guidelines that ensure consistent and accurate use of forensic technologies. Benefits for consumers, the economy, and research sectors are highlighted, showcasing how standards help save costs, improve safety, and support innovation.

Short Biography: Mr. Yusuf Yilmaz is a Project Manager in the Group Research and Transfer at DIN and holds a bachelor degree in business administration and engineering. His area of responsibility is the support of national as well as European RDI projects in the field of standardization, e.g. in issues of Industry 4.0, BIM, Forensic Sciences and AI.

Programme at Glance

Time/Date (GMT+2)	25.09.2024 Wednesday	26.09.2024 Thursday	27.09.2024 Friday
	<i>Conference Room Botafoc B</i>		
8:45-9:00	Registration	Registration	Registration
9:00-9:15	* Opening Session Sergey Y. Yurish , (IFSA President)	* Daily announcements	* Daily announcements
9:15-10:00	Keynote Speaker I Dr. Sergey Y. Yurish <i>International Frequency Sensor Association (IFSA)</i>	Keynote Speaker II Dr. Daewon Ha <i>Samsung Electronics</i>	Invited Speaker Mr. Yusuf Yilmaz German Institute for Standardization (DIN)
10:00-10:30	<i>Coffee Break & Breakfast Buffet</i>	<i>Coffee Break & Breakfast Buffet</i>	<i>Coffee Break & Breakfast Buffet</i>
10:30-12:30	Regular Session: Physical Sensors & Sensor System	Regular Session: Circuits Simulation & Design	Regular Session: Sensors Applications
12:30-13:30	<i>Lunch on your own</i>	<i>Lunch on your own</i>	<i>Lunch on your own</i>
13:30-15:30	Regular Session: Chemical Sensors & Biosensors I	Regular Session: Semiconductor Devices: Theory & Technologies	Virtual Session (Live Streams in Zoom)
15:30-16:00	<i>Coffee Break</i>	<i>Coffee Break</i>	
16:00-17:45	Regular Session: Chemical Sensors & Biosensors II	Regular Session: Sensor Networks, Sensor Fusion & IoT	<i>Poster Session & Farewell Cocktail</i>
17:45-18:00			* Closing Session Sergey Y. Yurish , (IFSA President)
18:00-20:00	-	-	-
20:00-23:00	-	<i>Gala Dinner</i>	-

* The must attend sessions.

Technical Conference Programme

Day 1

25 September 2024, Wednesday

Regular Session: Physical Sensors

(Conference Room *Botafoc B*):

Chairman: **Prof., Dr. Arkady Zhukov**

University of the Basque Country, Spain

1. Adaptive Optical Sensors – Their Calibration and Metrology

Ivan Krejci and Karel Dvorak

(Czech Republic)

2. Principal Component Analysis for Improvement of Luminescence Thermometry Precision

Zoran Ristic, Sanja Kuzman and Miroslav Dramicanin

(Serbia)

3. A Proposal for an Evaluation Method of Table Slide Exercise Using a MEMS Sensor

Yasutaka Uchida, Eiichi Ohkubo and Tomoko Funayama

(Japan)

4. Cellulose and Textile Based Sensors for Process Optimization and Structural Health Monitoring

Arunjunai Raj Mahendran, Nitin Gupta, Stephanie Weiss,

Christian Koren and Herfried Lammer *(Austria)*

5. Determination of Flow Angle by a Hot-Wire Anemometer

Ehsan Ardekani, Foad Farhani and Mohammad Ali Ardekani

(Iran)

6. Prototype of Bilateral Gait Measurement System and its Initial Analysis (pre-recorded video presentation)

Eiichi Ohkubo, Yasutaka Uchida, Tomoko Funayama

and Yoshiaki Kogure

(Japan)

Regular Session:
Chemical Sensors & Biosensors I
(Conference Room *Botafoc B*):

Chairman: **Dr. Antonia Lai**

ENEA, Italian National Agency for New Technologies, Italy

- 1. Nickel Oxide Nanoparticles as a Promising Modification for Various Bioanalytes Sensors Development**
Ivana Šišoláková, Mária Kačmárová, Radka Gorejová and Renáta Oriňaková
(*Slovakia*)
- 2. Reaction-Based Fingerprinting Methods in Natural Water Discrimination and Analysis**
Anna Shik, Irina Stepanova and Mikhail Beklemishev
(*Russia*)
- 3. Mass Spectrometer Sensors for Satellite Global Leak Test**
Carmine Carandente Tartaglia, Vincenzo Quaranta, Alberto Corbelli and Lucio Torre
(*Italy*)
- 4. A Low-Cost Smart Milk Quality Sensor for Live Milk Monitoring in Dairy Supply Chains**
Abhik Banerjee, Kaneez Fizza, Dimitrios Georgakopoulos, Anas Dawood and Prem Prakash Jayaraman
(*Australia*)
- 5. Design of Whispering Gallery Mode Based Sensor for Malaria Detection**
Lynda Cherbi, Nedjem Eddine Merabet, Meriem Benlachheb, Haffida Azza and Abderrahim Boughagha
(*Algeria*)
- 6. Detection of SARS-CoV-2 Mutant Pseudo-Viruses in A Mass-Sensitive Sensor System via Directed Plastic Viral Receptors**
Burcu Eren Yüngeviş, Ahmet Cenk Andaç, Gülgün Aylaz, Gözde Baydemir Peşint, Nadir Koçak, İbrahim Halil Yıldırım, Seval Cing Yıldırım and Müge Andaç (pre-recorded video presentation)
(*Turkey*)

Regular Session:
Chemical Sensors & Biosensors II
(Conference Room *Botafoc B*):

Chairman: **Dr. Ivana Šišoláková**
Pavol Jozef Šafárik University in Košice, Slovakia

- 1. Terahertz Waves as Remote and Touchless Sensors in Biology**
Janez Trontelj, Andrej Svigelj and Janez Trontelj Ml.
(Slovenia)
- 2. On-Site and Early Detection of Biological Threat by Surface Enhanced Raman Spectroscopy Activated Smart Swab**
Antonia Lai, Roberto Viola, Iliaria Petrignani, Adriana Puiu, Stefano Lecci, Nicola Liberatore and Sandro Mengali
(Italy)
- 3. Enhancing Biosensor Performance through Design of Experiments and Surface Plasmon Resonance**
Adyl-Michaël El Guamra and Mouad Lamrani
(Switzerland)
- 4. SERS Measurement of miRNA with the Potential Application for Liquid Biopsy**
Aizhan Issatayeva, Edoardo Farnesi, Siddra Maryam, Dana Cialla-May, Kiang Wei Kho, Michael Schmitt, Stefan Andersson-Engels, Daniel Milanese and Annamaria Cucinotta
(Italy, Germany, Ireland)
- 5. Development of Enzyme Inhibition-based Impedimetric Biosensor System for Determination of Heavy Metal Ions**
V. A. Bakhmat, O. O. Soldatkin, V. M. Pyeshkova
(Ukraine, UK)
- 6. Lead Halide Perovskite Based Sensors Under Extreme Conditions**
Eduard Aleksanyan, Anush Badalyan, Vachagan Harutyunyan, Norayr Grigoryan, Lenrik Matevosyan and Artavazd Kirakosyan
(Armenia, South Korea)

Day 2
26 September 2024, Thursday

Regular Session:
Circuits Simulation & Design
(Conference Room *Botafoc B*):

Chairman: **Dr. Daewon Ha**

Samsung Electronics, Gyeonggi-Do, South Korea

- 1. New Area Efficient Memcapacitor Emulator Circuit Realization**
Hacer Atar Yildiz
(Turkey)
- 2. On-Die Telemetry Circuitry for Measuring Clock Tree Timing Deterioration Due to Asymmetric Transistor Aging**
D. Wattad, S. Kvatinsky and F. Gabbay
(Israel)
- 3. An Analysis of BTI-Induced Degradation on Multi-Vth 28-nm Ring Oscillator**
Freddy Gabbay, Mayan Ella, Firas Ramadan and Duna Wattad
(Israel)
- 4. GHz Monolithically Integrated CV-QKD Receiver with DC Current Rejection**
(pre-recorded video presentation)
Dinka Milovancev and Nemanja Vokic
(Austria)
- 5. Design and Implementation of a Quadrature Optical Encoder for the Velocity Control of the Wheels of a Mobile Robot**
(pre-recorded video presentación)
Luis Roberto Vega Campos, Luis Rubén Padilla Ortiz and Luis Enrique González-Jiménez
(Mexico)

Regular Session:
Semiconductor Devices: Theory & Technologies
(Conference Room *Botafoc B*):

Chairman: **Prof., Dr. Freddy Gabbay**
The Hebrew University of Jerusalem, Israel

- 1. Predictive Quantum Simulation and Device Physics of GAAFETs**
Denis Mamaluy
(USA)

- 2. A Unified Physics-based Mobility Model for Semiconductor Devices, Including Band Structure Effects and Surface Hydrodynamic Viscosity**
Mahmoud-Sifeddin Taha and Muhammad El-Saba
(Egypt)

- 3. Yet Another Hydrodynamic Model for Semiconductors with Arbitrary Band Structure, and including the Electron Gas Viscosity and Surface Effects**
Muhammad El-Saba and Mahmoud-Sifeddin Taha
(Egypt)

- 4. Electro-kinetic Pressure Correction Parameter g of Hydro-Dynamic Model Calculation in Silicon Using Non-Parabolic Monte Carlo Simulation**
Mohamed Mohyee-Eddin, Karim El-Seherawy, Mahmoud-Sifeddin Taha and Muhammad El-Saba
(Egypt)

- 5. Quasi-periodic Process of Radiation Degradation of the Planar npnp Structure Holding Current (Iholding) Under γ -Irradiation**
(pre-recorded video presentation)
Sergey Bytkin
(Ukraine)

Regular Session:
Sensor Networks, Sensor Fusion and IoT
(Conference Room *Botafoc B*):

Chairman: **Prof., Dr. Ermanno Cardelli**
University of Perugia, Italy

- 1. Indicator-based Potential Analysis for Asset Tracking Applications**
Christian Jandl, Thomas Moser and Sebastian Schlund (*Austria*)
- 2. QCiEnMED: Ensuring Data Quality and Citizen Engagement in IoT Flash Flood Monitoring Systems**
Miguel Vinaixa-Fernandez, Carme Gelabert-Forteza, Maria Frontera-Bergas, Martin Rizzo, Miguel Molina-Rotger, Eugeni Isern and Bartomeu Alorda-Ladaria (*Spain*)
- 3. Anomaly Detection of Water Level Time Series for Data Quality Improvement in IoT Flash Flood Monitoring Systems**
Martin Rizzo, Miguel Molina Rotger, Miguel Vinaixa-Fernandez, Maria Frontera-Bergas, Carme Gelabert-Forteza, Eugeni Isern and Bartomeu Alorda-Ladaria (*Spain*)
- 4. Enhancing Airport Management Using Visible Light Communication**
Manuela Vieira, Manuel Augusto Vieira, Goçalo Galvão, Paula Louro, Pedro Vieira and Mario Vestias (*Portugal*)
- 5. Exploring Intersection Dynamics with Visible Light Communication**
Manuel Augusto Vieira, Manuela Vieira, Goçalo Galvão, Paula Louro, Mario Vestias and Pedro Vieira (*Portugal*)
- 6. Advanced Research in Real-Time Scheduling for Energy Autonomous Sensor Nodes**
(pre-recorded video presentation)
Maryline Chetto, Mohamad Elghor and Hussein Elghor (*Lebanon, France*)

Day 3
27 September 2024, Friday

Regular Session: Sensors Applications

(Conference Room *Botafoc B*):

Chairman: **Dr. Christian Bolzmacher**

Université Paris-Saclay, France

- 1. Development of Carbon Fiber Composites with Ferromagnetic Microwire Inclusions for Free Space Microwave Sensing**
Arcady Zhukov, Mihail Ipatov, Johan Malm, Christer Johansson, Rafael Garcia-Etxabe, Francisco J. Vallejo, Peio Olaskoaga and Valentina Zhukova (*Spain, Sweden*)

- 2. Approaches for the Physical Parameters' Identification of Ferrite Magnetic Cores**
Vittorio Bertolini, Lorenzo Sabino, Riccardo Scorretti, Antonio Faba, Francesco Riganti Fulginei and Ermanno Cardelli (*Italy*)

- 3. Biologically-inspired Indoor Human Tracking with Distinct Device-free Location Based Systems**
Giorgia Subbicini, Luciano Lavagno and Mihai Teodor Lazarescu (*Italy*)

- 4. Time and Frequency Domain Analysis of IMU-Based Orientation Estimation Algorithms with Comparison to Robotic Arm Orientation as Reference**
Ruslan Sultan, Steffen Greiser and Norman Brix (*Germany*)

- 5. Transformer Based Models for Speaker Independent Dysarthria Severity Classification**
Sally Ismail, Margarita Anastassova, Mehdi Boukallel, Christian Bolzmacher and Mehdi Ammi (*France*)

- 6. Broadband Single-channel Fluorescence in ESA Mobile Raman Lidar (EMORAL)**
Afwan Hafiz and Iwona Stachlewska (*Poland*)

Virtual Session:

(Conference Room *Botafoc B*):

Chairman: **Prof., Dr. Sergey Y. Yurish**

International Frequency Sensor Association (IFSA), Barcelona, Spain

Live Streams in Zoom:

1. Building Trustworthy Autonomous Vehicles: The Role of Multi-Sensor Fusion and Explainable AI (xAI) in On-Road and Off-Road Scenarios

De Jong Yeong, Krishna Panduru and Joseph Walsh
(Ireland)

2. Multi-Sensor Fusion Based Recommended Framework for Predictive Maintenance in Next Generation Machines

Ietezaz UI Hassan, Krishna Panduru and Joseph Walsh
(Ireland)

3. Performance Characterization and Estimation of Fast Fourier Transform in IoT Systems

Ilias Alexopoulos and Stelios Neophytou
(Cyprus)

4. Hydrogenated Amorphous Silicon Charge Selective Contact (CSC) Devices on a Polyimide Flexible Substrate for Dosimetry Measurements

L. Antognini, S. Aziz, A. Bashiri, M. Bizzarri, L. Calcagnile, D. Calvo, M. Caprai, D. Caputo, A. P. Caricato, R. Catalano, R. Cirio, G. A. P. Cirrone, T. Croci, G. Cuttone, G. De Cesare, P. De Remigis, S. Dunand, M. Fabi, L. Frontini, C. Grimani, M. Ionica, K. Kanxheri, M. Large, F. Lenta, V. Liberali, N. Lovecchio, M. Martino, G. Maruccio, G. Mazza, M. Menichelli, A. G. Monteduro, A. Morozzi, F. Moscatelli, A. Nascetti, S. Pallotta, A. Papi, D. Passeri, M. Pedio, M. Petasecca, G. Petringa, F. Peverini, P. Placidi, G. Quarta, S. Rizzato, G. Rossi, F. Sabbatini, L. Servoli, A. Stabile, C. Talamonti, J. E. Thomet, L. Tosti, M. Villani, R. J. Wheadon, N. Wyrsh, N. Zema
(Italy, Switzerland, Australia, Saudi Arabia)

5. Development and Application of Low-cost CO₂ Sensors for Monitoring Urban Environments

Svetoslava Todorova and David Coghiel (USA)

6. Measuring Land Use/ Land Cover Change in the Middle Rio Grande Region, U.S – Mexico Using Remote Sensing and Geographic Information Systems

Omar Belhaj, Stanley Mubako, Raed Aldouri, Craig Tweedie, William Hargrove, Alex Mayer and El Hadi Hadia
(USA, Lybia)

Pre-Recorded Video Presentations:

1. Implementation of Choreographic Schemes for Parametric Measurement in Precision Agriculture Based on a Real-Time IoT System

Néstor X. Arreaga, Sara Blanc Clavero, Rebeca Estrada and Ángel E. Martín
(Spain, Ecuador)

2. LoRa Technology Applied in a Cocoa Environment

Veronica Ojeda, Victor Asanza, Rebeca Estrada, Nelson Vera, Enrique Lucas and Josue Lucas
(Ecuador)

3. Experimental Off-diagonal GMI Sensor Temperature Drift Versus Theoretical Modelling (pre-recorded video presentation)

Papa Silly Traore, Pape Abdoulaye Fam and Mamaye Inès Correa
(Senegal)

4. Assessment of Energy Expenditure during Jump Rope Exercise using Accelerometers: Impact of Sampling Rate, Epoch, and Wearing Position

Wei-Hsun Tai, Hong-Yu Lin, Po-Ang Li and Hai-Bin Yu
(Taiwan, China)

The web links to all pre-recorded video presentations will be available at the conference's web site in Programme web section. You are welcome to ask questions and give comments in the YouTube Comments field:

<https://seia-conference.com/pre-recorded-video-presentations.html>

Poster Session
(Conference Room *Botafoc B*):
27 September 2024 (16:00-17:45)

- 1. Fluorescent Detection of Fertilizers Using Luminescent Eu³⁺ Doped SrF₂ Nanoparticles**
Tatjana Dramicanin, Ivana Zekovic, Jovana Perisa, Zoran Ristic, Zeljka Antic and Miroslav Dramicanin
(Serbia)
- 2. Temperature sensing with Pr³⁺-doped LiLaP₄O₁₂**
Željka Antić, Anđela Rajčić, Mina Medić, Zoran Ristić and Miroslav Dramićanin
(Serbia)
- 3. Luminescence Thermometry of Eu³⁺- Doped Y₂Mo₃O₁₂: Comparison of Traditional LIR and Machine Learning Approach**
Vesna Đorđević, Tamara Gavrilović, Aleksandar Ćirić, Zoran Ristić, Mina Medić, Željka Antić and Miroslav Dramićanin
(Serbia)
- 4. Engineering of Magnetic Properties of Co- rich Microwires by Joule Heating**
Paola Corte-Leon, Valentina Zhukova, Mihail Ipatov, Juan Maria Blanco, Julian Gonzalez and Arcady Zhukov
(Spain)
- 5. Time Synchronization for Rolling-shutter Camera Using Multi-Carrier Signal**
Masanori Sugimoto
(Japan)
- 6. Measurement of Transients in a Microfiltration Line**
Aleš Hribernik, Matjaž Hriberšek, Grega Horvat, Drago Kuzman, Aleks Kapun, Jure Ravnik and Gorazd Bombek
(Slovenia)
- 7. Monitoring of Water Requirement Using Thermal Unmanned Aerial Vehicle (UAV) on Intensive Hazelnut Orchard**
A. Vinci , R. Brigante, C. Traini, S. L. Facchin, S. Portarena, M. Sánchez-Piñero and D. Farinelli
(Italy)

- 8. Modification of Sensor Electrode Surface as a Platform for Effective Bioanalyte Detection: Conductive Polymer with Metallic Zn Particles**
Radka Gorejová, Ivana Šišoláková, Frederika Chovancová and Renáta Oriňaková
(Slovakia, Czech Republic)
- 9. Localizing Impacts on Windshields Based on Acoustic Wave Propagation**
Christian Bolzmacher
(France)
- 10. Sensor-based Measurement of Manual Waste Sorting Efficiency**
Robert Giel and Alicja Dąbrowska
(Poland)
- 11. Technical and Organizational Challenges in Designing a Test Bed for an Internal transport System Necessary for Developing a Digital Twin**
Robert Giel, Sylwia Werbińska-Wojciechowska and Klaudia Winiarska
(Poland)
- 12. Sensor Technologies in Supply Chain Monitoring – a Case of Wood-based Supply Chain**
Natalia Gnacy, Robert Giel and Sylwia Werbińska-Wojciechowska
(Poland)
- 13. Proactive Maintenance of Pump Systems in Mining Shaft Dewatering: Integrating Sensor Instrumentation and Advanced Measurement Techniques**
Rafał Rogowski and Sylwia Werbińska-Wojciechowska
(Poland)
- 14. Exploring ML Techniques: Off-road Vehicle Activity Classification Using GPS Data**
Krishna Panduru, De Jong Yeong and Joseph Walsh
(Ireland)
- 15.1-D force Gauge for Ultrasound Probe**
Urban Edström, Tomas Bäcklund and Christer Grönlund
(Sweden)

16.A Virtual Reality Glove System with Integrated Vibro-Tactile Feedback for Parkinson's Disease

Tim Vanbellingen, Myla van Wegen and Rolf Adelsberger
(Switzerland, The Netherlands)

17.Accurate calibration of MEMS Sensor with Temperature Drift Compensation Using Artificial Neural Networks Technique

Boussad Idjeri, Mohand Outahar Bensidhoum
and Mourad Laghrouche
(Algeria)
