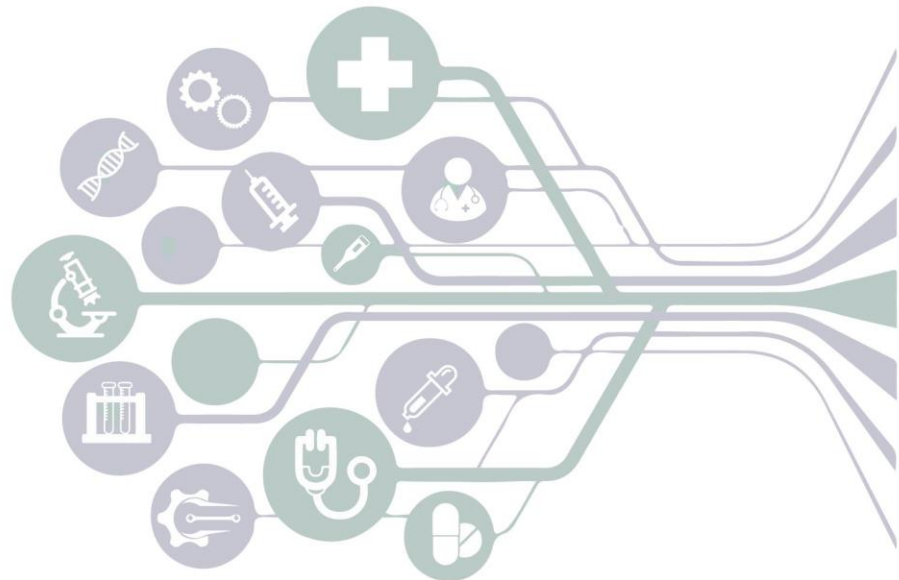


# ABSET 2023



**Advances in Biomedical  
Sciences, Engineering and  
Technology**



*10 – 11 June, 2023*

*Egaleo Park Campus Conference Center, University of West Attica,  
Athens, Greece*



Organized by the MSc Program  
“Biomedical Engineering and Technology”  
of the Department of Biomedical Engineering  
of the University of West Attica



It is our great pleasure to extend a warm welcome to each and every one of you to the Advances in Biomedical Sciences, Engineering and Technology (ABSET) 2023 international conference. Participants from different corners of the globe will gather in Athens 10-11 June 2023 at the University of West Attica, Greece, to engage in a fruitful exchange of knowledge, ideas, and experiences in the scientific fields of biomedical engineering and sciences. This conference serves as a platform for intellectual growth, collaboration, and innovation, fostering new connections and strengthening existing ones. Thank you for your participation, we wish you all a successful and memorable conference ahead.

The ABSET Organizing Committee

## CONFERENCE PROGRAMME

Eastern European Time	Saturday, June 10 <i>Exclusively physical attendance sessions</i>
10.00 - 10:30	<b>Conference Doors Open</b>
10.30 - 11:00	<b>Welcome Speech</b> <i>Kalatzis Ioannis</i> Head of Department of Biomedical Engineering, University of West Attica, GR <b>Short Presentation of the MSc Program Biomedical Engineering and Technology</b> <i>Glotsos Dimitris</i> Department of Biomedical Engineering, University of West Attica, GR
11.00 – 12.00	<b>Keynote Session</b> <b>Session Chairperson: <i>D. Glotsos</i></b>
11.00 – 11:30	<b>In vivo interface for neural signals</b> <i>Koch Klaus Peter</i> Trier University of Applied Sciences, DE
11.30 – 12:00	<b>Designing a massively scalable, cloud-based, medical image ingestion pipeline for supporting research</b> <i>Sidiropoulos Konstantinos</i> R&D IT department of AstraZeneca, Cambridge, UK
12.00 – 12.30	<b>Coffee Break (Lobby)</b>

*The asterisk (\*) indicates the corresponding Author, while the underline signifies the Author who will be presenting the work at the Conference.*

12.30 – 14.30	<b>Oral Session</b> <b>Session Chairpersons: A. Skouroliakou, E. Athanasiadis</b>
12.30 – 12.50	<b>Contrast Enhanced Spectral Mammography - an alternative breast imaging technique to MRI Mammography (invited Speech)</b> <i>Sdralis Yiannis</i> Papoudis Medical SA, GR
12.50 – 13.00	<b>Development of ZnO-PLA composite material for production of “green” radiopaque filaments oriented to Additive Manufacturing: feasibility study</b> <i>Cherubini Francesca<sup>1</sup>, Riberti Nicole<sup>2</sup>, Schiavone Anna Maria<sup>3</sup>, Davi Fabrizio<sup>1</sup>, Cassani Maria Cristina<sup>4</sup>, Giuliani Alessandra<sup>5</sup>, Barucca Gianni<sup>3</sup>, Rinaldi Daniele<sup>3</sup>, and <u>Montalto Luigi<sup>3*</sup></u></i> <sup>1</sup> Dipartimento di Ingegneria Civile, Edile e Architettura - Università Politecnica delle Marche, Ancona, IT <sup>2</sup> Dipartimento di Neuroscienze, Imaging e Scienze Cliniche - Università Gabriele D'Annunzio, Chieti, IT <sup>3</sup> Dipartimento di Scienze e Ingegneria della Materia, dell’Ambiente ed Urbanistica- Università Politecnica delle Marche, Ancona, IT <sup>4</sup> Dipartimento di Chimica Industriale "Toso Montanari" - - Università di Bologna, Bologna, IT <sup>5</sup> Dipartimento di Scienze Cliniche Specialistiche e Odontostomatologiche - Università Politecnica delle Marche, Ancona, IT
13.00 – 13.10	<b>A theoretical study of LaBr3:Ce crystalline scintillator thickness effect in Absolute Efficiency for radiographic X-ray tube voltage of 50 kVp</b> <i>Tseremoglou Stavros<sup>1*</sup>, Linardatos Dionysios<sup>1</sup>, Michail Christos<sup>1</sup>, Valais Ioannis<sup>1</sup>, Bakas Athanasios<sup>2</sup>, Ninos Konstantinos<sup>2</sup>, Kandarakis Ioannis<sup>1</sup>, Fountos George<sup>1</sup>, Kalyvas Nektarios<sup>1</sup></i> <sup>1</sup> Radiation Physics, Materials Technology and Biomedical Imaging Laboratory, Department of Biomedical Engineering, University of West Attica, Egaleo, GR <sup>2</sup> University of West Attica, Department of Biomedical Sciences, Egaleo, GR
13.10 – 13.20	<b>pyloadnano: A Python Module for Processing Single-Cell RNA Sequencing Spatial Transcriptomics Data from the NanoString CosMx Platform</b> <i>Karvelas Sotirios<sup>1</sup>, Kostopoulos Spiros<sup>1</sup>, Vlachos Ioannis S<sup>2,3,4</sup>, Vlachakis Dimitrios<sup>5</sup>, and Athanasiadis Emmanouil<sup>1</sup></i> <sup>1</sup> Medical Image and Signal Processing (MEDISP) Laboratory, Department of Biomedical Engineering, University of West Attica, Athens, GR <sup>2</sup> Cancer Research Institute   HMS Initiative for RNA Medicine   Department of Pathology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA <sup>3</sup> Spatial Technologies Unit, Beth Israel Deaconess Medical Center, MA, Boston, USA <sup>4</sup> Broad Institute of MIT and Harvard, Cambridge, MA, USA <sup>5</sup> Laboratory of Genetics Department of Biotechnology, School of Applied Biology and Biotechnology, Agricultural University of Athens, Athens, GR
13.20 – 13.30	<b>Rehabotics: A Comprehensive Rehabilitation Platform for Post-Stroke Spasticity, Incorporating Autoregressive Models and Augmented Reality Serious Games</b> <i>Pantelis Syringas<sup>1</sup>, Theodore Economopoulos<sup>1</sup>, Ioannis Kouris<sup>1</sup>, Ioannis Kakkos<sup>1</sup>, Giorgos Papagiannis<sup>2</sup>, Athanasios Triantafyllou<sup>2</sup>, Giorgos Papagiannis<sup>2</sup>, George Matsopoulos<sup>1</sup> Dimitrios I. Fotiadis<sup>3</sup></i> <sup>1</sup> Biomedical Engineering Laboratory, School of Electrical and Computer Engineering, National Technical University of Athens, GR <sup>2</sup> Biomechanics Laboratory, Physiotherapy Department, University of the Peloponnese, Sparta, GR and Physioloft, Physiotherapy Center <sup>3</sup> Unit of Medical Technology and Intelligent Information Systems, University of Ioannina, GR

13.30 – 13.40	<p><b>Driving a De-novo protein design using efficient classifiers based on k-mers</b>  <i>Zervou Areti-Michaela<sup>1</sup>, Doutsis Effrosyni<sup>2,3*</sup>, Pantazis Yiannis<sup>3</sup>, and Tsakalides Panagiotis<sup>1,3</sup></i>  <sup>1</sup>Department of Computer Science, University of Crete, GR  <sup>2</sup>Department of Informatics and Computer Engineering, University of West Attica, GR  <sup>3</sup>Foundation for Research and Technology Hellas, GR</p>
13.40 – 13.50	<p><b>Unraveling Imaginary and Real Motion: A Correlation Indices Study in BCI Data</b>  <i>Miloulis Stavros-Theofanis<sup>1,2</sup>, Zorzos Ioannis<sup>1,2</sup>, Kakkos Ioannis<sup>1,2</sup>, Karampasi Aikaterini<sup>1,2</sup>, Ventouras Errikos-Chaim<sup>1</sup>, Kalatzis Ioannis<sup>1</sup>, Papageorgiou Charalampos<sup>3</sup>, Matsopoulos George K.<sup>2</sup>, and Asvestas Panteleimon<sup>1*</sup></i>  <sup>1</sup>Department of Biomedical Engineering, University of West Attica, GR  <sup>2</sup>Biomedical Engineering Laboratory, School of Electrical and Computer Engineering, National Technical University of Athens, GR  <sup>3</sup>Department of Psychiatric, School of Medicine, National &amp; Kapodistrian University of Athens, GR</p>
13.50 – 14.00	<p><b>Automatic identification of sleep spindles using recurrent neural networks</b>  <i>Sarakinos Stavros, Theodoropoulou Eleni, and Ventouras Errikos-Chaim<sup>1*</sup></i>  Department of Biomedical Engineering, University of West Attica, GR</p>
14.00 – 14.10	<p><b>Validation of a pipeline to measure gait cycle asymmetry with wearable sensors</b>  <i>Verros Konstantinos<sup>1*</sup>, Hertel Frank<sup>2</sup>, Koch Klaus Peter<sup>3</sup>, Glotsos Dimitris<sup>1</sup>, Bremm Rene Peter<sup>2,4</sup>, and Magni Stefano<sup>2,4</sup></i>  <sup>1</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR  <sup>2</sup>National Department of Neurosurgery, Centre Hospitalier de Luxembourg, LU  <sup>3</sup>Department of Electrical Engineering, Trier University of Applied Sciences, Trier, DE  <sup>4</sup>Luxembourg Centre for Systems Biomedicine, University of Luxembourg, Esch-sur-Alzette, LU</p>
14.10 – 14.20	<p><b>Time-Dependent Adaptations of Brain Networks in Driving Fatigue</b>  <i>Giannakopoulou Olympia<sup>1*</sup>, Kakkos Ioannis<sup>1</sup>, Dimitrakopoulos Georgios N.<sup>2</sup>, Sun Yu<sup>3</sup>, Matsopoulos George K.<sup>1</sup>, and Koutsouris Dimitrios D.<sup>1</sup></i>  <sup>1</sup>Biomedical Engineering Laboratory, School of Electrical and Computer Engineering, National Technical University of Athens, Athens, GR  <sup>2</sup>Department of Informatics, Ionian University, GR  <sup>3</sup>Department of Biomedical Engineering, Key Laboratory for Biomedical Engineering of Ministry of Education of China, Zhejiang University, Hangzhou, CN</p>
14.20 – 14.30	<p><b>Exploring the impact of gene selection on Single-Cell sequencing data analysis</b>  <i>Lazaros Konstantinos<sup>*</sup>, Dimitrakopoulos Georgios N., Vrahatis Aristidis G., and Vlamos Panagiotis</i>  Department of Informatics, Ionian University, GR</p>
14.30 – 15.30	<p><b>Break (free time)</b></p>

15.30 – 17.30

**Poster Session + Coffee Break**

**Session Chairpersons: P. Liaparinos, S. Kostopoulos**

- 1. Development of fluid dynamics simulation models and Uncertainty Quantification algorithms for ophthalmic hemodynamic flows**  
*Ninos Georgios<sup>1</sup>, Sofiadis George<sup>2</sup>, and Sarris Ioannis E.<sup>2</sup>*  
<sup>1</sup>Department of Biomedical Sciences, Laboratory of Optical Metrology, University of West Attica, Athens, GR  
<sup>2</sup>Department of Mechanical Engineering, University of West Attica, Athens, GR
- 2. Brain Signals to Actions using Machine Learning**  
*Angelakis Dimitris, Ventouras Errikos, and Asvestas Pantelis*  
Department of Biomedical Engineering, University of West Attica, Athens, GR
- 3. Dental Phantom for X-ray Imaging**  
*Kalakos Michalis<sup>1</sup>, Fountou Anastasia<sup>2</sup>, Fasoulas George<sup>3</sup>, Fountos George<sup>1</sup>, Kalyvas Nektarios<sup>1</sup>, and Liaparinos Panagiotis<sup>1\*</sup>*  
<sup>1</sup>Radiation Physics, Materials Technology and Biomedical Imaging Laboratory, Department of Biomedical Engineering, University of West Attica, Athens, GR  
<sup>2</sup>Dental School, University of Athens, GR  
<sup>3</sup>Dental Clinic, Patras, GR
- 4. Prediction of Parkinson's disease using Machine Learning and Statistical Analysis algorithms**  
*Arbouniotti Ioanna, Fragkiadaki Georgia, Katsara Vasiliki, Kontopoulos Christos, and Cavouras Dionisis<sup>1\*</sup>*  
Department of Biomedical Engineering, University of West Attica, Athens, GR
- 5. Discriminating between schizophrenic patients and healthy controls using functional network connectivity features from fMRI examinations**  
*Andrianos Christos, Kokkinopoulou Aggeliki, Kotrotsiou Eleftheria N., Papadopoulos Nestoras, and Cavouras Dionisis<sup>\*</sup>*  
Department of Biomedical Engineering, University of West Attica, Athens, GR
- 6. Source Based Morphometry (SBM) Analysis in Schizophrenia using Statistical Analysis and Machine Learning**  
*Giakoumopoulou Stavroula C., Mitrou Maria, Panousopoulos Georgios, and Cavouras Dionisis<sup>\*</sup>*  
Department of Biomedical Engineering, University of West Attica, Athens, GR
- 7. A theoretical study regarding the effect of the inverse diffusion length on YAlO<sub>3</sub>:Ce and Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>:Ce scintillator materials absolute luminescence efficiency**  
*Dimitrakopoulos Anastasios, Michail Christos, Valais Ioannis, Tseremoglou Stavros, Linardatos Dionysios, Fountos George, Kandarakis Ioannis, and Kalyvas Nektarios*  
Radiation Physics, Materials Technology, and Biomedical Imaging Laboratory, Department of Biomedical Engineering, University of West Attica, Athens, GR
- 8. Designing a 3D printed mammographic image quality phantom**  
*Soumpaki Dimitra<sup>1</sup>, Michail Christos<sup>1</sup>, Fountos George<sup>1</sup>, Krikoni Anna<sup>2</sup>, Valais Ioannis<sup>1</sup>, Kandarakis Ioannis<sup>1</sup> and Kalyvas Nektarios<sup>1</sup>*  
<sup>1</sup>Radiation Physics, Materials Technology, and Biomedical Imaging Laboratory, Department of Biomedical Engineering, University of West Attica, Athens, GR  
<sup>2</sup>Diagnostic center Medifirst INTERAMERICA group, Peristeri, GR
- 9. Drug repurposing in glioblastoma multiforme: the case of CARD11-BCL10-MALT1 signalosome complex**  
*Bafiti Vivi<sup>1</sup>, Matsoukas Minos-Timotheos<sup>2</sup>, Zolota Vasiliki<sup>3</sup>, Kardamakis Dimitrios<sup>4</sup>, and Katsila Theodora<sup>1\*</sup>*  
<sup>1</sup>Institute of Chemical Biology, National Hellenic Research Foundation, Athens, GR  
<sup>2</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR  
<sup>3</sup>Department of Pathology, School of Medicine, University of Patras, Patras, GR  
<sup>4</sup>Department of Radiation Oncology, School of Medicine, University of Patras, Patras, GR

- 10. Structure-Based Computational Drug Repurposing using Interaction Fingerprint Data: A Machine Learning Approach**  
Panagiotopoulos Vasilis<sup>1,2</sup>, Ouzounis Sotiris<sup>1,2,3</sup>, Giatro Marios<sup>2</sup>, Zoumpoulakis Panagiotis<sup>3,5</sup>, Cavouras Dionisis<sup>1</sup>, Kalatzis Ioannis<sup>1</sup>, Katsila Theodora<sup>3</sup>, and Matsoukas Minos Timotheos<sup>1,2\*</sup>  
<sup>1</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR  
<sup>2</sup>Cloudpharm PC, Athens, GR  
<sup>3</sup>Institute of Chemical Biology, National Hellenic Research Foundation, Athens, GR  
<sup>4</sup>Department of Food Science and Technology, University of West Attica, Athens, GR
- 11. Development and evaluation of a portable gamma radiation detector with spectroscopic capabilities**  
Kasdagli Evangelia, Potiriadis Nikolaos, Liaparinou Panagiotis, Skouropoulou Aikaterini, and David Stratos\*  
 Department of Biomedical Engineering, University of West Attica, Athens, GR
- 12. Detection and identification of radioisotopes via silicon photomultiplier based scintillation detector**  
Potiriadis Nikolaos, Liaparinou Panagiotis, Skouropoulou Aikaterini, and David Stratos\*  
 Department of Biomedical Engineering, University of West Attica, Athens, GR
- 13. Automated curation of Alphafill generated models for computational simulations**  
Giatro Marios<sup>1</sup>, Panagiotopoulos Vasilis<sup>1</sup>, Papadourakis Michail<sup>1</sup>, and Matsoukas Minos Timotheos<sup>1,2\*</sup>  
<sup>1</sup>Cloudpharm PC, Athens, GR  
<sup>2</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR
- 14. Data-driven drug repurposing in diabetes mellitus through an enhanced knowledge graph**  
Ouzounis Sotiris<sup>1,2</sup>, Kanterakis Alexandros<sup>3</sup>, Panagiotopoulos Vasilis<sup>2,4</sup>, Cavouras Dionisis<sup>2</sup>, Zoumpoulakis Panagiotis<sup>1,5</sup>, Matsoukas Minos Timotheos<sup>2,4</sup>, Katsila Theodora<sup>1\*</sup>, and Kalatzis Ioannis<sup>2\*</sup>  
<sup>1</sup>Institute of Chemical Biology, National Hellenic Research Foundation, Athens, GR  
<sup>2</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR  
<sup>3</sup>Institute of Computer Sciences, Foundation for Research and Technology Hellas, GR  
<sup>4</sup>Cloudpharm PC, Athens, GR  
<sup>5</sup>Department of Food Science and Technology, University of West Attica, Athens, GR
- 15.  $\phi$ -eye: high sensitive imaging of fluorescent and bioluminescent probes in vivo**  
Fysikopoulos Eleftherios, Lagoumtzi Sofia, Georgiou Maria, Gatsiou Christina-Anna, Lamprou Efthimios, and Loudos George  
 BIOEMTECH, Lefkippos Attica Technology Park - NCSR Demokritos, Athens, GR
- 16. Bimodal active shape models for cervical vertebrae and spinal canal boundary extraction**  
Liaskos Meletios<sup>1</sup>, Savelonas Michalis A.<sup>2</sup>, Asvestas Pantelis A.<sup>1\*</sup>, and Matsopoulos George K.<sup>3</sup>  
<sup>1</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR  
<sup>2</sup>Dept. of Computer Science and Biomedical Informatics, University of Thessaly Lamia, GR  
<sup>3</sup>Biomedical Engineering Laboratory, School of Electrical and Computer Engineering, National Technical University of Athens, Athens, GR
- 17. Image analysis on chest radiographs for COVID-19 identification**  
Petsalari Stefanos, Athanasiadis Emmanouil, and Kostopoulos Spiros\*  
 Medical Image and Signal Processing (MEDISP) Laboratory, Department of Biomedical Engineering, University of West Attica, Athens, GR
- 18. Predictive models utilizing machine learning for the ecotoxicity assessment of pharmaceuticals**  
Didachos Christos<sup>1</sup>, Ouzounis Sotiris<sup>1,2</sup>, Panagiotopoulos Vasilis<sup>1,2</sup>, Roussaki Marina<sup>1</sup>, Papadourakis Michail<sup>1</sup>, Matsoukas Minos-Timotheos<sup>1,2</sup>, and Zoumpoulakis Panagiotis<sup>1,3\*</sup>  
<sup>1</sup>Cloudpharm PC, Athens, GR  
<sup>2</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR  
<sup>3</sup>Department of Food Science and Technology, University of West Attica, Athens, GR
- 19. Experimental Construction and Evaluation of a Geiger Muller Gamma Ray Radiation Detector**  
Chatzipetros Emmanouel, Liaparinou Panagiotis, Kandarakis Ioannis and David Stratos\*  
 Department of Biomedical Engineering, University of West Attica, Athens, GR



**20. An Arduino based portable ultraviolet radiation (UV-C) sterilization device**

*Spyridakis Parisis<sup>1</sup>, Lamprokostopoulou Agaristi<sup>2</sup>, Potiriadis Nikolaos<sup>1</sup>, Glotsos Dimitris<sup>1</sup>, Asvestas Pantelis<sup>1</sup>, and David Stratos<sup>1\*</sup>*

<sup>1</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR

<sup>2</sup>Virometix AG, GR

**21. In-silico evaluation of a pinhole portable SPECT system dedicated for Lu-177 applications**

*Savvidis Georgios, Fysikopoulos Eleftherios, Georgiou Maria, Lamprou Efthimis, Paneta Valentina, Loudos George and Papadimitroulas Panagiotis\**

BIOEMTECH, Lefkippos Attica Technology Park - NCSR Demokritos, Athens, GR

**22. Statistical analysis of a questionnaire-based survey for assessing the impact of Taiji on the World Health Organization definitions regarding Quality of Life (QoL)**

*Tsolakidis Dimitris<sup>1\*</sup>, Kakatsaki Despina<sup>2</sup>, and Glotsos Dimitris<sup>2</sup>*

<sup>1</sup>Flow Taiji Center, Argypoli, Athens, GR

<sup>2</sup>Psychiatrist in private practice, Athens, GR

<sup>3</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR

**23. Higher Education of Biomedical Engineering in Greece: Undergraduate students' outcomes from 1989 to 2019**

*Liaparinou Panagiotis\*, Kostopoulos Spiros, Glotsos Dimitris, Kalatzis Ioannis*

Department of Biomedical Engineering, University of West Attica, Athens, GR

**24. The profession of the Biomedical Engineer in Greece: a questionnaire-based survey**

*Glotsos Dimitris\*, Kostopoulos Spiros, Liaparinou Panagiotis, Asvestas Pantelis, Kalatzis Ioannis*

Department of Biomedical Engineering, University of West Attica, Athens, GR

<b>Eastern European Time</b>	<b>Sunday, June 11</b> <i>Exclusively virtual sessions</i>
10.45 - 11:00	<b>Virtual Sessions Open</b>
<b>11.00 – 12.00</b>	<b>Keynote Session</b> <b>Session Chairpersons: L. Montalto</b>
11.00 - 11:30	<b>Ultrasound-enhanced Cancer Immunotherapy</b> <i>Associate Professor Costas D. Arvanitis<sup>1,2</sup></i> <sup>1</sup> Woodruff School of Mechanical Engineering, Georgia Institute of Technology, USA <sup>2</sup> Coulter Department of Biomedical Engineering, Georgia Institute of Technology, USA
11.30 - 12:00	<b>A Decade of Motion Management Developments in NM Imaging</b> <i>Assistant Professor Irene Polycarpou</i> European University of Cyprus, CY
12.00 – 12.30	<b>Break (free time)</b>
<b>12.30 – 14.00</b>	<b>Virtual Session 1 (Oral presentations)</b> <b>Session Chairpersons: I. Kakkos</b>
12.30 – 12.40	<b>Towards the Characterization of Schizophrenia by Acoustic and Temporal Analysis of Speech</b> <i>Mouratai Alexandrina<sup>1</sup>, Dimopoulos Nikolaos<sup>2</sup>, Dimitriadis Athanasios<sup>2</sup>, Koudounas Pantelis<sup>2</sup>, Glotsos Dimitris<sup>1</sup>, and Coelho Luis<sup>3</sup></i> <sup>1</sup> Department of Biomedical Engineering, University of West Attica, Athens, GR <sup>2</sup> Dromokaiteio Hospital, Athens, GR <sup>3</sup> Polytechnic of Porto, Porto, PT
12.40 – 12.50	<b>Masking Emotions: Benchmarking Emotion Classification While Wearing Face Masks</b> <i>Moreira Cristina, Cardoso Helena, Sequeira Miguella, Coelho Raquel, Coelho Luis, and Reis Sara</i> Polytechnic Institute of Porto, Porto, PT
12.50 – 13.00	<b>Prediction of heart wellness based on the analysis of skin color</b> <i>Kammari Kavya Sree<sup>1</sup>, Neetu Srivastava<sup>2*</sup>, and Sarris Ioannis<sup>3</sup></i> <sup>1</sup> Department of Computer Science and Engineering, Amrita Vishwa Vidyapeetham, Bangalore, IN <sup>2</sup> Department of Mathematics, Amrita Vishwa Vidyapeetham, Bangalore, IN <sup>3</sup> Department of Mechanical Engineering, University of West Attica, Athens, GR
13.00 – 13.10	<b>Antimicrobial Resistance profiles of Escherichia coli from diarrhoeic weaned piglets in two Greek Regions over a five-month period (March-July 2021)</b> <i>Zafeiridis Christos<sup>1*</sup>, Giakkoupi Panagiota<sup>2</sup>, Vatopoulos Alkiviades<sup>2</sup>, and Papadogiannakis Emmanouil<sup>2</sup></i> <sup>1</sup> Directorate of Animal Welfare, Veterinary Drugs and Applications, General Directorate of Veterinary Services, Ministry of Rural Development and Food, Department of Public Health Policy of the School of Public Health, University of West Attica, GR <sup>2</sup> Department of Public Health Policy of the School of Public Health - University of West Attica, GR



13.10 – 13.20	<p><b>Machine learning analysis of nanodrug delivery in 2<sup>nd</sup> order blood flowing through porous blood vessels</b></p> <p><i>Spurthi Joanna Selladurai<sup>1</sup>, Neetu Srivastava<sup>1</sup>, and Sarris Ioannis<sup>2</sup></i></p> <p><sup>1</sup>Department of Mathematics, Amrita School of Engineering, Bengaluru, IN  <sup>2</sup>Department of Mechanical Engineering, University of West Attica, Athens, GR</p>
13.20 – 13.30	<p><b>Optimization of X-Ray techniques with a physical phantom</b></p> <p><i>Todorov Todor<sup>1</sup>, Bliznakova Kristina<sup>2*</sup>, Dukov Nikolay<sup>2</sup>, Teneva Tsvetelina.<sup>3</sup>, and Bliznakov Zhivko<sup>2</sup></i></p> <p><sup>1</sup>Department of Medical Imaging, University Hospital Varna, Varna, BG  <sup>2</sup>Department of Medical Equipment, Electronic and Information Technologies in Healthcare, Medical University of Varna, Varna, BG  <sup>3</sup>Department of Imaging Diagnostics, Interventional Radiology and Radiotherapy, Medical University of Varna, Varna, BG</p>
13.30 – 13.40	<p><b>Monitoring and tracking output parameters of a radiological unit</b></p> <p><i>Valkova Vanessa-Mery, <u>Dukov Nikolay</u>, and Bliznakova Kristina*</i></p> <p>Medical University of Varna, Varna, BG</p>
14.00 – 14:30	<b>Break (free time)</b>
14.30 – 16.00	<p><b>Virtual Session 2 (Oral presentations)</b></p> <p>Session Chairpersons: <i>I. Tache</i></p>
14.30 – 14.40	<p><b>Detecting changes in the optic nerve of early glaucoma patients using the RETeval system</b></p> <p><i>Bekollari Marsida<sup>1</sup>, Dettoraki Maria<sup>2</sup>, Stavrou Valentina<sup>2</sup>, Skouroliakou Aikaterini<sup>1</sup>, and Liaparinou Panagiotis<sup>1*</sup></i></p> <p><sup>1</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR  <sup>2</sup>Department of Ophthalmology, "Elpis" General Hospital, Athens, GR</p>
14.50 – 15.00	<p><b>Effect of an interventional movement program on mechanical gait characteristics of a patient with dementia</b></p> <p><i>Vlatinou Penelope<sup>1</sup> and Aggelousis Nikolaos<sup>2*</sup></i></p> <p><sup>1</sup>Department of Occupational Therapy, University of West Attica, Athens, GR  <sup>2</sup>Department of Physical Education and Sport Science, Democritus University of Thrace, Komotini, GR</p>
15.00 – 15.10	<p><b>Regulation of the phagocytic activity of astrocytes by neuroimmune mediators endogenous to the central nervous system</b></p> <p><i>Sijie (Shirley) Yang<sup>1</sup>, Svetlana Simtchouk<sup>1</sup>, Julien Gibon<sup>1</sup>, Andis Klegeris<sup>1*</sup></i></p> <p><sup>1</sup>Department of Biology, University of British Columbia, CA</p>
15.10 – 15.20	<p><b>Effect of structure and biomaterial on the mechanical properties of 3D printed nanocomposite scaffolds</b></p> <p><i>Kontaxis Lykourgos C.<sup>1*</sup>, Tsirogianni Artemis<sup>2</sup>, Graikioti Dafni<sup>2</sup>, Kotrotsos Athanasios<sup>1</sup>, Athanassopoulos Constantinos M.<sup>2</sup>, Kostopoulos Vassilis<sup>1</sup>, and Deligianni Despina D.<sup>1</sup></i></p> <p><sup>1</sup>Department of Mechanical Engineering &amp; Aeronautics, University of Patras, Rion, GR  <sup>2</sup>Department of Chemistry, University of Patras, Rion, GR</p>
15.20 – 15.30	<p><b>Towards Green Affordable Bone Scaffolds: Preparation and Physicochemical Characterization of 3D Printed PCL/Eggshell Biodegradable Bone Scaffolds for Maxillofacial Reconstruction</b></p> <p><i>Darwish Lamis R.<sup>1,2*</sup> and Farag Mahmoud M.<sup>1</sup></i></p> <p><sup>1</sup>Mechanical Engineering Department, The American University in Cairo, Cairo, EG  <sup>2</sup>Biomedical Engineering Department, Faculty of Engineering, Helwan University, Cairo, EG</p>

15.30 – 15.40	<p><b>Advancing Neurological Disease Diagnosis and Prognosis through State-of-the-Art Machine Learning Models and Three-Dimensional Particle Reconstruction</b>  <i>Alevizos Vasileios<sup>1*</sup>, Georgousis Ilias<sup>2</sup>, Makris Dimitrios<sup>3</sup>, Bakas Spyridon<sup>4</sup>, Pati Sarthak<sup>4</sup>, Xu Clark<sup>5</sup>, Zongliang Yue<sup>6</sup>, Xiao Vanessa<sup>7</sup>, and Asvestas Pantelis<sup>1</sup></i></p> <p><sup>1</sup>Department of Biomedical Engineering, University of West Attica, Athens, GR  <sup>2</sup>Department of Computer Science, International Hellenic University, GR  <sup>3</sup>Department of Computer Science, Kingston University, UK  <sup>4</sup>Department of Pathology &amp; Laboratory Medicine, University of Pennsylvania, USA  <sup>5</sup>Department of Medicine, UW School of Medicine and Public Health, USA  <sup>6</sup>Department of Drug Discovery and Development, Massachusetts Institute of Technology, USA  <sup>7</sup>Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, USA</p>
15.40 – 16.00	<b>Closing</b>