IMA 2021 12th International Conference on Instrumental Methods of Analysis: Modern Trends and Applications

The 12th International Conference on "Instrumental Methods of Analysis" IMA-2021 was successfully held, organized by the Aristotle University of Thessaloniki (Prof. M. Mitrakas, Analytical Chemistry Laboratory, Dep. Chemical Engineering) and the National Technical University of Athens (Prof. Maria Ochsenkühn-Petropoulou and Assist. Prof. Fotis Tsopelas, Laboratory of Inorganic and Analytical Chemistry, School of Chemical Engineering) during 20-23 September 2021. The conference, which took place in virtual mode for the first time, hosted the recent progress in the field of Instrumental Chemical Analysis and the modern trends in the development and application of analytical methods in cutting-edge sectors such as the environment, pharmaceutics, life sciences, food and materials.

The program of the 4-day event attended by 260 participants from 23 countries,included 14 invited speakers, 73 oral presentations and 98 poster contributions. Special sessions focused on aerosol metrology (supported by EU Project AEROMET II), advanced X-ray techniques (supported by the European X-ray Spectrometry Association) and virus spread analytics were also organized within the frame of IMA-2021.

Details on the program of the conference and the book of abstracts which is going to become available soon through the journal MDPI Applied Sciences can be found in the website (www.ima2021.gr).

In the special session on aerosol metrology, 8 oral presentation from AEROMET II partners were included, with two plenary lectures given by the coordinator of the project, Dr. Burkhard Beckhoff and Dr. Konstantinos Eleftheriadis (NCSR Demokritos, GR).

In the following the titles, names and affiliations of the presentations, as well as the link to the abstracts are shown, according to the presentation order:

1.Traceable analysis of aerosols and advanced materials at the nano- and microscales by X-ray spectrometry

B.Beckhoff, K. Bzheumikhova, P. Hönicke, Y. Kayser, C. Stadelhoff, R. Unterumsberger, A. Wählisch, N. Wauschkuhn, J. Weser, and C. Zech

Physikalisch-Technische Bundesanstalt (PTB), Abbestraße 2-12, 10587 Berlin, Germany

2. Element Mass Concentrations in Ambient Aerosols, a Comparison of Results from Filter Sampling / ICP-MS and Cascade Impactor Sampling / Mobile Total Reflection X-ray Fluorescence Spectroscopy

S.Seeger[1], J. Osan[2], O. Czömpöly[2], A. Gross[3], H. Stosnach[3], L. Stabile[4], M. Ochsenkuehn-Petropoulou[5], L. A. Tsakanika[5], T. Lymperopoulou[5], S. Goddard[6], M. Fiebig[7], F. Gaie-Levrel[8], Y. Kayser[9], B. Beckhoff[9]

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3.X-ray fluorescence and absorption methods for identifying sources of urban aerosol pollution episodes

J.Osán[1], O. Czömpöly[1], V. Groma[1], E. Börcsök[1] and S. Pollastri[2]

1Environmental Physics Department, Centre for Energy Research, Konkoly-Thege M. út 29-33., H-1121 Budapest, Hungary 2Elettra Sincrotrone Trieste, Strada Statale 14 - km 163,5, I-34149 Basovizza, Trieste, Italy

4.NPL Studies into dental surgery airborne particulates for COVID-19 mitigation

J.T. Tompkins, D.M. Butterfield, A.S. Brown

Air Quality and Aerosol Metrology Group, National Physical Laboratory, Teddington, TW11 0LW, UK

5.The role of aerosol science on understanding and preventing SARS-CoV-2 transmission in the community

K.Eleftheriadis

NCSR "Demokritos", 15310 Ag. Paraskevi, Athens, Greece

6.Total reflection X-ray fluorescence reference materials for cascade impactor air quality monitoring systems

L.Vigna[1], M. Gottschalk[2], E. Cara[3], F. Ferrarese-Lupi[3], A. Verna[1], S. L. Marasso[1,4], S. Seeger[2], L. Boarino[3], N. De Leo[3], F. C. Pirri[1,5] and M. Cocuzza[1,4]

[1]Politecnico di Torino, Torino, 10129, Italy [2]Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, 12489, Germany [3]Istituto Nazionale di Ricerca Metrologica (INRiM), Torino, 10135, Italy [4]CNR-IMEM, Parma, 43124, Italy [5]Istituto Italiano di Tecnologia, Center for Sustainable Future Technologies, Torino, 10144, Italy

7.Experimental measurement protocol of aerosol deposition relating to a bend in a large ventilation network with rectangular ducts

D. Costa[1, 2], J. Malet[1] and E. Géhin[2]

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8. Aethalometer multiple scattering correction in an Arctic environment

S.Vratolis, K. Eleftheriadis

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