

PANDEMICS ANALYTICS 2023

International Conference on Pandemics Analytics

ISBN: 978-1-68558-085-8

November 13th – 17th, 2023

Valencia, Spain

PANDEMICS ANALYTICS 2023 Editors

Petre Dini, IARIA, USA/EU

PANDEMICS ANALYTICS 2023

Forward

The International Conference on Pandemics Analytics (PANDEMICS ANALYTICS 2023) continues a series of events targeting lessons learned from past and current pandemics and building a basis for pandemic science analytics. The focus is on models for preparedness, awareness, use of medical achievements (such as short-time vaccine development), promptly developed logistics (vaccine production, supply coordination, vaccinations, quarantines), as well as on handling hospital capacity and personnel. The conference was held in Valencia, Spain, November 13 - 17, 2023.

A pandemic is defined as a widespread occurrence of a disease, at a global level, and affecting a large number of people. Pandemics are rare, but their effects are deeply damaging to society. Continuous actions on prevention and control of infectious diseases exist, coordinated by national and international bodies, such as the World Health Organization (WHO). In pre-pandemic times, citizen preparedness has mainly focused on the early warning and early monitoring of infectious diseases. Local/global health research uses data gathering and visualization, usually via dashboards. Research cooperation between countries is generally on an 'as needed' basis.

Limiting the impact of pandemics on citizens' lives (including social, economic, and educational aspects) requires the adoption of the best tools by all parties involved. These tools include Big Data for real-time accurate reports, Al-based decisions for supplies delivery scheduling, high speed and secure communications, as well as means for combating fake news on social networks and countering the offenders.

We take this opportunity to thank all the members of the PANDEMICS ANALYTICS 2023 Technical Program Committee as well as the numerous reviewers. We also kindly thank all the authors who dedicated much of their time and efforts to contribute to the PANDEMICS ANALYTICS 2023.

This event could also not have been a reality without the support of many individuals, organizations, and sponsors. We are grateful to the members of the PANDEMICS ANALYTICS 2023 organizing committee for their help in handling the logistics and for their work to make this professional meeting a success.

We hope the PANDEMICS ANALYTICS 2023 was a successful international forum for the exchange of ideas and results between academia and industry and to promote further progress with respect to pandemic science analytics. We also hope that Valencia provided a pleasant environment during the conference and everyone saved some time for exploring this beautiful city

PANDEMICS ANALYTICS 2023 Chairs

PANDEMICS ANALYTICS Steering Committee

Les Sztandera, Thomas Jefferson University, USA Shada Alsalamah, King Saud University, Saudi Arabia

PANDEMICS ANALYTICS 2023 Liaison for Certification on Systems

Lorena Parra Boronat, Universitat Politecnica de Valencia, Spain

Sandra Viciano Tudela, Universitat Politecnica de Valencia, Spain Jose Miguel Jimenez, Universitat Politecnica de Valencia, Spain

PANDEMICS ANALYTICS 2023

Committee

PANDEMICS ANALYTICS 2023 Steering Committee

Les Sztandera, Thomas Jefferson University, USA Shada Alsalamah, King Saud University, Saudi Arabia

PANDEMICS ANALYTICS 2023 Publicity Chair

Lorena Parra Boronat, Universitat Politecnica de Valencia, Spain Sandra Viciano Tudela, Universitat Politecnica de Valencia, Spain Jose Miguel Jimenez, Universitat Politecnica de Valencia, Spain

PANDEMICS ANALYTICS 2023 Technical Program Committee

Vassiliki Balla, University of Patras, Greece

Rosario Catelli, Institute for High Performance Computing and Networking (ICAR) - National Research Council (CNR), Italy

Jacques Demongeot, Université Grenoble Alpes, France

Marcio Eisencraft, University of São Paulo, Brazil

Marco Furini, Università di Modena e Reggio Emilia, Italy

Soufiane Gasmi, University of Tunis, Tunisia

Fazel Keshtkar, ST JOHN'S University, USA

Samaneh Madanian, Auckland University of Technology, New Zealand

Samira Maghool, Università degli Studi di Milano, Italy

Veenu Mangat, UIET | Panjab University, India

Sadandaula Rose Muheriwa, University of Rochester - School of Nursing, USA

P. Muthu, SRM Institute of Science and Technology, India

Sina Namaki Araghi, IMT Mines Albi, France

Amal Necibi, Education Ministry, Tunisia

Mehmet Akif Ozdemir, Izmir Katip Celebi University, Turkey

Douangprachanh Sathathone, Mittaphab Hospital / Ministry of Public Health, Vientiane, Laos

Les Sztandera, Thomas Jefferson University, USA

Mesut Togaçar, Firat University, Turkey

Andreas Triantafyllidis, Centre for Research and Technology - Hellas (CERTH), Greece

Jun Xu, Institute of Geographic Sciences and Natural Resources Research - Chinese Academy of Sciences, China

Dongwen Wang, Arizona State University, USA

Copyright Information

For your reference, this is the text governing the copyright release for material published by IARIA.

The copyright release is a transfer of publication rights, which allows IARIA and its partners to drive the dissemination of the published material. This allows IARIA to give articles increased visibility via distribution, inclusion in libraries, and arrangements for submission to indexes.

I, the undersigned, declare that the article is original, and that I represent the authors of this article in the copyright release matters. If this work has been done as work-for-hire, I have obtained all necessary clearances to execute a copyright release. I hereby irrevocably transfer exclusive copyright for this material to IARIA. I give IARIA permission or reproduce the work in any media format such as, but not limited to, print, digital, or electronic. I give IARIA permission to distribute the materials without restriction to any institutions or individuals. I give IARIA permission to submit the work for inclusion in article repositories as IARIA sees fit.

I, the undersigned, declare that to the best of my knowledge, the article is does not contain libelous or otherwise unlawful contents or invading the right of privacy or infringing on a proprietary right.

Following the copyright release, any circulated version of the article must bear the copyright notice and any header and footer information that IARIA applies to the published article.

IARIA grants royalty-free permission to the authors to disseminate the work, under the above provisions, for any academic, commercial, or industrial use. IARIA grants royalty-free permission to any individuals or institutions to make the article available electronically, online, or in print.

IARIA acknowledges that rights to any algorithm, process, procedure, apparatus, or articles of manufacture remain with the authors and their employers.

I, the undersigned, understand that IARIA will not be liable, in contract, tort (including, without limitation, negligence), pre-contract or other representations (other than fraudulent misrepresentations) or otherwise in connection with the publication of my work.

Exception to the above is made for work-for-hire performed while employed by the government. In that case, copyright to the material remains with the said government. The rightful owners (authors and government entity) grant unlimited and unrestricted permission to IARIA, IARIA's contractors, and IARIA's partners to further distribute the work.

Table of Contents