Book of Abstracts of the

INTERNATIONAL SCIENTIFIC CONFERENCE

"INFORMATICS, MATHEMATICS, EDUCATION AND THEIR APPLICATIONS"

29 Nov – 01 Dec 2023, Pamporovo, Bulgaria

IMEA'2023

Organizer:

Faculty of Mathematics and Informatics "Paisii Hilendarski" University of Plovdiv



Program Committee

Chair: Prof. Asen RAHNEV, PhD, University of Plovdiv, Bulgaria

Secretary: Assoc. Prof. Kremena STEFANOVA, PhD, University of Plovdiv, Bulgaria

Members:

- Prof. Boyan ZLATANOV, DSc, University of Plovdiv, Bulgaria
- Prof. Mancho MANEV, PhD, DSc, University of Plovdiv, Bulgaria
- Prof. Sava GROZDEV, PhD, DSc, University of Plovdiv, Bulgaria
- Prof. Snezhana HRISTOVA, PhD, DSc, University of Plovdiv, Bulgaria
- Prof. Angel GOLEV, PhD, University of Plovdiv, Bulgaria
- Prof. Anna MALINOVA, PhD, University of Plovdiv, Bulgaria
- Prof. Anton ILIEV, PhD, University of Plovdiv, Bulgaria
- Prof. Asya STOYANOVA-DOYCHEVA, PhD, University of Plovdiv, Bulgaria
- Prof. Elena SOMOVA, PhD, University of Plovdiv, Bulgaria
- Prof. Hristo KISKINOV, PhD, University of Plovdiv, Bulgaria
- Prof. Kosta GAROV, PhD, University of Plovdiv, Bulgaria
- Prof. Nikolay KYURKCHIEV, PhD, University of Plovdiv, Bulgaria
- Prof. Nikolay PAVLOV, PhD, University of Plovdiv, Bulgaria
- Prof. Ruslan MITKOV, PhD, University of Wolverhampton, England
- Prof. Stanimir STOYANOV, PhD, University of Plovdiv, Bulgaria
- Prof. Todorka GLUSHKOVA, PhD, University of Plovdiv, Bulgaria
- Prof. Todorka TERZIEVA, PhD, University of Plovdiv, Bulgaria
- Assoc. Prof. Dobrinka MILUSHEVA-BOYKINA, PhD, University of Plov-div, Bulgaria
- Assoc. Prof. Evgeniya ANGELOVA, PhD, University of Plovdiv, Bulgaria
- Assoc. Prof. Marta TEOFILOVA, PhD, University of Plovdiv, Bulgaria
- Assoc. Prof. Vladimir VALKANOV, PhD, University of Plovdiv, Bulgaria

Organizing Committee

Chair: Prof. Angel GOLEV, PhD, Dean of Faculty of Mathematics and Informatics, University of Plovdiv, Bulgaria

Honorary Chair:

- Nikolay MELEMOV, Mayor of Smolyan Municipality
- Boran HADZHIEV, Mayor of Chepelare Municipality

Vice Chair: Assoc. Prof. Marta TEOFILOVA, PhD, University of Plovdiv, Bulgaria

Secretary: Assist. Prof. Veselina NANEVA, University of Plovdiv, Bulgaria

Members:

- Assoc. Prof. Veselin KYURKCHIEV, PhD, University of Plovdiv, Bulgaria
- Head Assist. Prof. Elena TODOROVA, PhD, University of Plovdiv, Bulgaria
- Head Assist. Prof. Maria VASILEVA, PhD, University of Plovdiv, Bulgaria
- Head Assist. Prof. Maya STOEVA, PhD, University of Plovdiv, Bulgaria
- Head Assist. Prof. Simeon MONOV, PhD, University of Plovdiv, Bulgaria
- Assist. Prof. Georgi SPASOV, University of Plovdiv, Bulgaria
- Assist. Prof. Gergana KOLEVA, University of Plovdiv, Bulgaria
- Assist. Prof. Pavel KYURKCHIEV, University of Plovdiv, Bulgaria
- Assist. Prof. Rosen HRISTEV, University of Plovdiv, Bulgaria
- Assist. Prof. Ventsislav DILYANOV, University of Plovdiv, Bulgaria
- Assist. Prof. Viktor MATANSKI, University of Plovdiv, Bulgaria
- Angel URILSKI, University of Plovdiv, Bulgaria
- Diana MINCHEVA, University of Plovdiv, Bulgaria
- Dimitar STAMOV, University of Plovdiv, Bulgaria
- Kristiyan KOLEV, University of Plovdiv, Bulgaria
- Manuela GENEVA, University of Plovdiv, Bulgaria
- Milen SLAVOV, University of Plovdiv, Bulgaria
- Nadya MILEVA, University of Plovdiv, Bulgaria

- Neli TODOROVA, University of Plovdiv, Bulgaria
- Nikola MIHALEV, University of Plovdiv, Bulgaria
- Mariyana KOLEVA, University of Plovdiv, Bulgaria
- Todor CHAUSHEV, University of Plovdiv, Bulgaria

Organizer: Faculty of Mathematics and Informatics, "Paisii Hilendarski" University of Plovdiv, Bulgaria

With the financial support of:

- Scientific Project FP23-FMI-002 "Intelligent Software Tools and Applications in Research in Mathematics, Informatics and Teaching Pedagogy" of the Scientific Research Fund of the "Paisii Hilendarski" University of Plovdiv;
- Scientific Project MUPD23-FMI-009 "Development of ICT through New Research and Technological Solutions" of the Scientific Research Fund of the "Paisii Hilendarski" University of Plovdiv;
- Scientific Project KP-06-M62/2 "Knowledge Modeling in the field of Bulgarian Folklore" of the National Science Fund of the Ministry of Education and Science in Bulgaria;
- Scientific Project KP-06-PN62/1 "Mathematical and information modeling of dynamic processes new theoretical results, research methods and applications" of the National Science Fund of the Ministry of Education and Science in Bulgaria;
- Grant agreement No D01-65/19.03.2021 of Bulgarian Ministry of Education and Science under the National Research Program "Smart crop production", approved by Decision of the Ministry Council No. 866/26.11.2020.

Plovdiv University Press ISBN: 978-619-7663-79-2