



ERIS 2021

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Proceedings of the 14th International Conference “Education and Research in the Information Society”

Edited by

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Preface

ERIS 2021 is a successor of the first “School of Programming”, organised by the Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences in 1976, which grew up to the international conference “Information and Communication Technologies and Programming” (ICT&P) and were held annually without interruption for 30 years – from 1976 to 2005. Since 1997 the Association for the Development of the Information Society (ADIS) took the main organizer role. During that period papers and lectures were presented by prominent scientists and experts such as L. Aiello, M. Mac an Airchinnigh, A. Androniko, F. Bauer, K. Beauchamp, P. Boursier, C. Castelfranchi, Y. Demazeau, J. Demetrovic, F. Denot, A. Dillon, M. Dombrowski, A. Ershov, B. Faltings, G. Gardarin, H. Gaylord, M. Georgeff, N. Govorun, R. Guiliarevskij, J. Habichler, P. Hajek, A. Harkevich, I. Havel, J. Hoffer, J. Horejs, S. Joosten, E. Juschenko, V. Kasyanov, V. Kotov, J. Kral, Z. Kulpa, V. Kurochkin, S. Lavrov, L. Lukaszewicz, P. Maestrini, A. Mazurkiewics, A. Patel, M. Peschl, R. Petrioli, I. Pottosin, F. Rabitti, J. Sanger, E. Sanchez, C. Sattler, J. Schmidt, S. Spaccapietra, N. Spyrtos, N. Streitz, Y. Tanaka, C. Thanos, M. Theodorakis, K. Tombre, S. Trumpy, E. Tyugu, T. Vamos.

After the 30th edition of ICT&P, Prof. P. Barnev decided to give the new focus of the meetings of informatician guild and in October 2006 the First national conference “Education in the Information Society” was held in Plovdiv. Since 2013 the area was widened and the conference achieved its current name – Education and Research in the Information Society (ERIS). During that period various topics on emerging technologies such as E-learning and education support systems, Serious games and virtual reality, Web technologies and cloud computing, Social networks and security of the Web environment, User modelling and user-adaptive systems, Natural language processing and information retrieval, Big data management and analysis, Knowledge discovery from data and text, Approaches for addressing cultural diversity and users with special needs, Innovative systems for e-governance, e-health, and e-libraries, Social and legal aspects of the information society were discussed.

ERIS 2021 is the 14th edition of the conference “Education and Research in the Information Society”, which since 2006 has been established as an important conference of regional importance in the field of hot topics in informatics and their impact on the information society. This year we have updated ERIS with a new look and structure, and ambition to become again one of the leading computer science events in South-Eastern Europe.

The conference call for papers solicited unpublished contributions to be included in the conference proceedings. There were 39 submissions from 8 countries. Each paper was reviewed by two Program Committee members. Finally, based on the received evaluations, the Program Committee decided to accept 15 papers that are included in this proceedings volume (8 short and 7 regular papers). The order of the articles in the volume follows the program of the conference.

Considering the great importance of the two-way connection between AI and education, the conference was opened with the speech of Prof. Maria Nisheva-Pavlova: “AI Courses for Secondary and High School – Comparative Analysis and Conclusions”. The other presentations of the participants presented interesting and original research, formed in the following sessions:

- Knowledge Discovery from Data and Text;
- Data Mining Applications;
- Intelligent Systems;
- Analytics in Education;
- Programming Elements.

Also, two satellite workshops complement the diversity of topics covered:

- Workshop of DISTILL project: Digital Transformation in Culture and Arts,
- Workshop: Recent Advances in Information Theory, Practice and Education.

This year the Program and Organizing Committees decided to establish a special grant for free participation in the conference for students in master programs and PhD students. The grant was named to one of the first computer scientists in Bulgaria and founder of ADIS – Professor Peter Barnev. We are proud to announce that the first winner of the Barnev Grant in 2021 is Karina Agafonova, who is a student in the Master program “Data, Culture, and Visualization” at ITMO University, St. Petersburg, Russia.

Finally, we take this opportunity to express our sincere gratitude to all the authors for their valuable contribution to ERIS 2021 and also to the colleagues of the Program Committee for their opinions and very helpful comments. Special thanks to the Organizing Committee of the conference and especially to Georgi Vragov, thanks to whom Plovdiv again kindly welcomes us for another fruitful meeting.

September 27, 2021

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CEUR Workshop Proceedings (CEUR-WS.org)

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- Association for the Development of the Information Society
- Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences
- Sofia University “St. Kliment Ohridski”
- Plovdiv University “Paisii Hilendarski”
- UNITE – Universities for Science, Informatics, and Technologies in eSociety

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