

## Preface

Over the past decade, the area of Evolving and Adaptive Intelligent Systems, has emerged to play an important role on a broad international level in today's real-world applications, especially those ones with high complexity and dynamics change. Its embedded modelling and learning methodologies are able to cope with real-time demands, changing operation conditions, varying environmental influences, human behaviors, knowledge expansion scenarios and drifts in online data streams.

The *IEEE Conference on Evolving and Adaptive Intelligent Systems 2022 (IEEE EAIS 2022)* serves as an international forum focusing on the discussion of recent advances, the exchange of recent innovations, and the outline of important future challenges in the above defined area. As such, *IEEE EAIS* addresses a variety of topics covering a wide research area that includes, among others, soft computing, fuzzy systems, evolutionary algorithms, pattern recognition, etc. The conference also welcomes practical papers that address the needs of contemporary application domains, such as cloud computing and big data. Finally, the conference supports the organization of Special Sessions that focus on specific aspects of the broad area of evolving and adaptive intelligent systems.

*EAIS 2022* is the 14<sup>th</sup> edition of a long standing event that started back in 2006 and is held annually:

- EFS'06 (Lake District, UK), chair: Plamen Angelov
- GEFS'08 (Witten-Bomerholz, Germany), chair: Frank Hoffmann
- ESDIS'09 (Nashville, USA), chair: Plamen Angelov
- EIS'10 (Leicester, UK), chair: Plamen Angelov
- IEEE EAIS 2011 (Paris, France), as part of the IEEE SSCI 2011 conference, Symposium chairs: Plamen Angelov, Dimitar Filev, Nik Kasabov
- IEEE EAIS 2012 (Madrid, Spain), chair: José Antonio Iglesias
- IEEE EAIS 2013 (Singapore), as part of the IEEE SSCI 2013 conference, Symposium chairs: Plamen Angelov, Dimitar Filev, Nik Kasabov
- IEEE EAIS 2014 (Linz, Austria), chair: Edwin Lughofer
- IEEE EAIS 2015 (Douai, France), chair: Plamen Angelov, Dimitar Filev, Nik Kasabov
- IEEE EAIS 2016 (Natal, Brazil), chairs: Bruno Costa, Luiz Affonso Guedes
- IEEE EAIS 2017 (Ljubljana, Slovenia), chairs: Igor Škrjanc, Sašo Blažič
- IEEE EAIS 2018 (Rhodes, Greece), chairs: Plamen Angelov, Yannis Manolopoulos
- IEEE EAIS 2020 (Bari, Italy), chairs: Giovanna Castellano, Corrado Mencar

In response to the call for papers and the subsequent review process that generated close to 100 reviews, we were able to accept 19 papers from 62 authors that satisfy the high standards and quality requirements of an established IEEE conference. The authors come from several different countries in the Americas, Europe, and Africa, demonstrating the international dimension of *EAIS*.

The papers are grouped into the following sessions:

- General Track I & II
- Adaptive Computational Intelligence, Machine Learning and Applications I & II
- Adaptive Learning Systems for Image Processing
- Recent Advances on Text and Document Streams Mining

Authors of selected papers will be invited to publish extended versions of their conference contributions in the journal *Evolving Systems*, published by Springer.

Finally, this year's conference features an invited talk by Igor Škrjanc on the evolution of Neuro Fuzzy systems in monitoring and control.

*EAIS 2022* is organized by the *Department of Computer Science (Software Engineering and Internet Technologies (SEIT) Lab)*, *University of Cyprus, Cyprus*, sponsored by the *IEEE Systems, Man, & Cybernetics Society* and its *Technical Committee on Evolving and Intelligent Systems*, and supported by the *University of Cyprus*.

We would like to thank the members of the International Program Committee, the reviewers of the contributed papers and the members of the Organizing Committee for their most valuable support and work during the preparation of this conference.

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