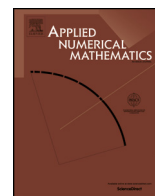




Contents lists available at ScienceDirect

Applied Numerical Mathematics

www.elsevier.com/locate/apnum

Editorial

Structural dynamical systems: Computational aspects



This special issue is devoted to collecting recent developments in theoretical and computational aspects of dynamical systems presented during the biannual Workshop “Structural Dynamical Systems: computational aspects (SDS 2018)” held in Monopoli (Italy) in June 12–15, 2018.

This regular workshop encompasses different aspects of dynamical systems, ranging from theory, to modeling, numerical analysis and simulation. More than 60 participants, from 15 different countries, attended the workshop. The main topics of the workshop were “Mathematical models and simulation in biology”, “Medicine and engineering”, “Innovative numerical methods for ODEs and PDEs”, “Continuous and discrete dynamical systems: theory and numerical methods”, “Fractional calculus: theory, applications and numerical methods” and “Optimal control problems”.

This special issue is mainly dedicated to presenting a selection of research advancements in the field of the numerical analysis of dynamical systems and highlighting the different ideas and results discussed during the workshop. The volume collects a selection of 14 out of the 22 papers submitted to the special issue.

We thank IMACS and the Editors-in-Chief Prof. Z.Jackiewicz and Prof. T.Taha for accepting to devote a special issue of Applied Numerical Mathematics to this selection of results. We are also grateful to the large number of reviewers involved in the review process for their precious help in selecting the most valuable contributions for publication in this special issue.

Finally we are grateful to all the plenary speakers who accepted to delivery invited talks during the Workshop SDS 2018 and the following institutions for the support necessary to the organization:

- University of Bari “Aldo Moro”, Bari, Italy
- Polytechnic of Bari, Bari, Italy
- University of Salento, Lecce, Italy
- IAC-CNR, Istituto per Applicazioni del Calcolo “M. Picone”, Bari, Italy
- Istituto Nazionale di Alta Matematica (INdAM) “F. Severi”, Gruppo GNCS, Roma, Italy

An account of the activities held during the workshop can be found at the website <https://sites.google.com/site/workshopsds2018/home>.

Roberto Garrappa*

Cinzia Elia

Department of Mathematics, University of Bari, Via E. Orabona 4, 70126 Bari, Italy

E-mail addresses: roberto.garrappa@uniba.it (R. Garrappa), cinzia.elia@uniba.it (C. Elia)Luca Gerardo-Giorda^{a,b}^aJohannes Kepler Universität, Altenbergerstraße 69, A-4040 Linz, Austria^bJohann Radon Institute for Computational and Applied Mathematics (RICAM), Altenbergerstraße 69, A-4040 Linz, AustriaE-mail address: luca.gerardo-giorda@jku.at

* Corresponding author.

Alessandro Pugliese

Department of Mathematics, University of Bari, Via E. Orabona 4, 70126 Bari, Italy

E-mail address: alessandro.pugliese@uniba.it

Giuseppe Vacca

Department of Mathematics and Applications, University of Milano Bicocca, Via R. Cozzi 55, 20126 Milano, Italy

E-mail address: giuseppe.vacca@unimib.it

Available online 27 March 2020