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Learning and Intelligent Optimization

16th International Conference, LION 16
Milos Island, Greece, June 5–10, 2022
Revised Selected Papers



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Preface

The sixteenth installment of the international conference series “Learning and Intelligent Optimization” (LION 16) took place in Milos, Greece, during June 5–10, 2022, at the Milos Conference Center with the participation of researchers and academicians from 23 countries, from China to Brazil, across five continents. As the repercussions of COVID-19 continued in some countries and regions, all sessions were digitally broadcasted in real-time. Thus, all participants had the option to join and give their talk in a remote setting. LION 16 featured six invited talks:

- “How does our mind emerge from our brain?”, a plenary talk given by Christos Papadimitriou (Columbia University, USA),
- “Crops, Tuples, and Disasters”, a tutorial talk given by Bernhard Garn, Klaus Kieseberg, and Dimitris E. Simos (MATRIS Research Group, SBA Research, Austria),
- “A Random Generator of Hypergraphs Ensembles”, a tutorial talk presented by Mario Rosario Guarracino, Amor Messaoud, Yassine Msakni, Giovanni Camillo Porzio (University of Cassino and Southern Lazio, Italy, and Ecole Supérieure de Commerce de Tunis, Tunisia),
- “Numerical Infinities and Infinitesimals in Optimization”, a tutorial talk given by Yaroslav D. Sergeyev (University of Calabria, Italy),
- “Tourism and Hospitality: Relevant Problems for Machine Learning and Intelligent Optimization”, a tutorial talk given by Roberto Battiti (University of Trento and Ciaomanager SRL, Italy), and
- “Distributed Adaptive Gradient Methods for Online Optimization”, a tutorial talk given by George Michailidis (University of Florida, USA).

We would like to thank the authors for contributing their work, and the reviewers whose tireless efforts resulted in keeping the quality of the contributions at the highest standards. This volume contains 39 refereed papers carefully selected from 60 submissions using a XX single-blind peer review process, with a minimum of two reviews per paper. Authors of selected papers were invited to revise their work taking into account 36 full papers and 3 short papers for inclusion in this volume.

The editors also express their gratitude to the organizers and sponsors of the LION 16 conference:

- MATRIS Research Group, SBA Research, Austria.
- CARGO Lab, Wilfrid Laurier University, Canada - APM Institute for the Advancement of Physics and Mathematics.

A special thank you goes to the publicity chair of LION 16 (Izem Chaloupka – MATRIS Research Group) for coordinating and managing registrations, communication with participants, the digital media for visibility efforts, online participation, and digital broadcasting, and to the LION 16 volunteers (junior and senior researchers of

the MATRIS Research Group: Klaus Kieseberg, Ludwig Kampel, and Bernhard Garn), for the preparation of the conference, managing a scientifically attractive and intriguing booth, developing disaster scenarios and combinatorial black-box testing games, and presenting gifts to two participants on each day of the event. We also thank SBA Research for sponsoring LION 16 and Daniela Freitag-David (Strategic Innovation and Communication, SBA Research) for increasing the conference visibility through online news entries.

Another special thank you goes to the Knuth Prize, Gödel, IEEE-John von Neumann Medal, EATCS, and the IEEE Computer Society Charles Babbage Award holder, Christos Papadimitriou (Columbia University), for contributing to the community through his intriguing plenary talk.

After a two-year-long COVID-19 pandemic and virtual conferences, we were delighted to be able to assemble and reconnect with the vibrant LION community members physically and deliver this LNCS proceedings volume for LION 16, in keeping with the tradition of the four most recent LION conferences [1–4].

June 2022

Dimitris E. Simos
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 Francesco Archetti
 Ilias S. Kotsireas
 Panos M. Pardalos

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