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Artificial Life and Evolutionary Computation

15th Italian Workshop, WIVACE 2021
Winterthur, Switzerland, September 15–17, 2021
Revised Selected Papers

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Preface

This volume of Communication in Computer and Information Science contains the proceedings of WIVACE 2021, the 15th Workshop on Artificial Life and Evolutionary Computation. The event was originally planned to be held at the campus in Winterthur, Switzerland of the Zurich University of Applied Sciences in September 2020, but had to be rescheduled to September 15–17, 2021, and held in a hybrid way because of the COVID-19 pandemic.

The International Workshop on Artificial Life and Evolutionary Computation aims at bringing together researchers working in artificial life and evolutionary computation to present and share their research in a multidisciplinary context. The workshop provides a forum for the discussion of new research directions and applications in these fields. It was first held in 2007 in Sampieri (Ragusa), as the incorporation of two previously separately running workshops (WIVA and GSICE). After the success of the first edition, the workshop was organized in the following years in Venice (2008), Naples (2009), Parma (2012), Milan (2013), Vietri (2014), Bari (2015), Salerno (2016), Venice (2017), Parma (2018), and Rende (2019). In 2021, it was for the first time held outside Italy, demonstrating that WIVACE is not only an Italian but also an international community.

The various contributions gathered a wide range of interdisciplinary topics: (I) Networks, (II) Droplets, Fluids, and Synthetic Biology, (III) Robot Systems, (IV) Computer Vision and Computational Creativity, (V) Semantic Search, (VI) Artificial Medicine and Pharmacy, (VII) Trade and Finance. Furthermore, a panel discussion on (VIII) Ethics in Computational Modeling and a session on Social Systems was held. Overall, 10 invited and 22 contributed talks were given. In total, 23 high-quality papers were accepted for this proceedings volume after a single-blind review round performed by Program Committee members, with each paper receiving at least three reviews. Submissions and participants came from nine different European countries and from Iraq, Japan, and the USA, making WIVACE 2021 a truly international event.

Many people contributed to this successful edition. We express our gratitude to the authors for submitting their works, to the members of the Program Committee for devoting so much effort to reviewing papers, to the invited speakers and the members of the panel discussion about ethics, and to Ramvijay Subramani at Springer for their support through the final stages leading to this proceedings volume. Our gratitude also goes to the Zurich University of Applied Sciences for offering the venue for the event. We would like to thank various members of the staff at the Zurich University of Applied Sciences for helping us with the workshop administration. Hereby, Teresa D'Onghia

and Julia Obst deserve special thanks. We would also like to mention Roberto Serra for providing both constructive criticism and inspiration.

November 2022

Johannes Josef Schneider
Mathias Sebastian Weyland
Dandolo Flumini
Rudolf Marcel Fuchslin

In Memoriam

We mourn the loss of two members of our WIVACE community, Orazio Miglino (1963–2021) and Domenico Parisi (1935–2021).

Orazio Miglino was the organizer of WIVACE 2009 in Naples.

Domenico Parisi's plenary talk was one of the highlights at WIVACE 2012 in Parma.

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