

# Preface

This volume of the Springer book series Communications in Computer and Information Science contains the proceedings of WIVACE 2014, the Ninth Italian Workshop on Artificial Life and Evolutionary Computation, held from May 14 to 15, 2014, in Vietri Sul Mare, Italy.

The goal of WIVACE 2014 was to provide researchers in evolutionary computation, complex systems, and artificial life with an opportunity for the presentation of relevant novel researches in a strongly multidisciplinary context. Artificial Life and Evolutionary Computation (ALEC) are core research areas of what has become an exciting cross-fertilization between evolutionary biology, computer science, and engineering. Computer scientists and engineers, inspired by evolution in nature, realized that they could apply the same powerful Darwinian mechanism in computers for practical purposes, such as complex industrial design.

In recent years, there has been a market trend in the ALEC community toward real-world applications. Techniques, inspired by ALECs wide ambition to produce more intelligent systems, are not only gaining acceptance in other fields of scientific research, but also in areas such as business, commerce, and industry. The integration of these disciplines by different learning and adaptation techniques has in recent years contributed to the emergence of large numbers of new superior class of intelligence known as Hybrid Intelligence. Hybridization of different intelligent systems is an innovative approach to construct computationally intelligent systems consisting of artificial neural network, fuzzy inference systems, rough set, approximate reasoning, and optimization methods such as evolutionary computation, swarm intelligence, and particle swarm optimization.

To broaden its range, this year WIVACE 2014 was held in conjunction with the 24th Italian Workshop on Neural Networks WIRN 2014 (May 15–16). Participation in both workshops has been strongly encouraged in order to favor the interdisciplinary viewpoint of both communities.

The editors wish to express their sincere gratitude to all persons who supported this venture and made it feasible. In particular, we wish to thank all the authors who spent time and effort to contribute to this volume. We would also thank reviewers who, as members of the Program Committee, not only assessed papers, but also acted as session chairmen during the workshop. Special thanks, finally, to the invited speakers who, during the workshop gave three very interesting and inspiring talks: Enrique Alba, professor at University of Málaga, Spain, Yaroslav D. Sergeyev, professor at University of Calabria, Italy, and Roberto Serra, professor at University of Modena and Reggio Emilia, Italy.

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