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Swarm Intelligence

8th International Conference, ANTS 2012
Brussels, Belgium, September 12-14, 2012
Proceedings



Springer

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ISSN 0302-9743	e-ISSN 1611-3349
ISBN 978-3-642-32649-3	e-ISBN 978-3-642-32650-9
DOI 10.1007/978-3-642-32650-9	
Springer Heidelberg Dordrecht London New York	

Library of Congress Control Number: 2012943942

CR Subject Classification (1998): I.2.6, I.2.8-9, F.2.2, I.2.11, F.1, H.4.2

LNCS Sublibrary: SL 1 – Theoretical Computer Science and General Issues

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Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

These proceedings contain the papers presented at ANTS 2012, the 8th International Conference on Swarm Intelligence, held at IRIDIA, Université Libre de Bruxelles, Brussels, Belgium, during September 12–14, 2012. The ANTS series started in 1998 with the First International Workshop on Ant Colony Optimization (ANTS 1998), which attracted more than 50 participants. Since then ANTS, which is held bi-annually, has gradually become an international forum for researchers in the wider field of swarm intelligence. In 2004, this development was acknowledged by the inclusion of the term “Swarm Intelligence” (next to “Ant Colony Optimization”) in the conference title. Since 2010, the ANTS conference is officially devoted to the field of swarm intelligence as a whole, without any bias toward specific research directions. This is reflected in the title of the conference: “International Conference on Swarm Intelligence.”

This volume contains the best papers selected out of 81 submissions. Of these, 15 were accepted as full-length papers, while 20 were accepted as short papers. This corresponds to an overall acceptance rate of 43%. Also included in this volume are seven extended abstracts.

All the contributions were presented as posters. The full-length papers were also presented orally in a plenary session. Extended versions of the best papers presented at the conference will be published in a special issue of the *Swarm Intelligence* journal.

We take this opportunity to thank the large number of people that were involved in making this conference a success. We express our gratitude to the authors who contributed their work, to the members of the International Program Committee, to the additional referees for their qualified and detailed reviews, and to the staff at IRIDIA for helping with organizational matters. We thank Nigel R. Franks, Vijay Kumar, and Dirk Helbing for their inspiring keynote talks. Finally, we thank AntOptima, ECCAI—the European Coordinating Committee for Artificial Intelligence, the European Research Council, the French Community of Belgium (through the ARC research project META-X), and the Fund for Scientific Research–FNRS for their gracious support.

We hope the reader will find this volume useful both as a reference to current research in swarm intelligence and as a starting point for future work.

July 2012

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Mauro Birattari
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