

# Preface

This book contains the articles presented at the 14<sup>th</sup> International Conference on the Simulation of Adaptive Behavior (SAB 2016), held in Aberystwyth at Aberystwyth University, Wales, in August 2016.

The objective of the biennial SAB conference is to bring together researchers in computer science, artificial intelligence, artificial life, complex systems, robotics, neuroscience, ethology, evolutionary biology, and related fields in order to further our understanding of the behaviours and underlying mechanisms that allow natural and artificial animals to adapt and survive in uncertain environments.

Adaptive behaviour research is distinguished by its focus on the modelling and creation of complete animal-like systems, which – however simple at the moment – may be one of the best routes to understanding intelligence in natural and artificial systems. The conference is part of a long series that started with the first SAB conference held in Paris in September 1990, which was followed by conferences in Honolulu (1992), Brighton (1994), Cape Cod (1996), Zürich (1998), Paris (2000), Edinburgh (2002), Los Angeles (2004), Rome (2006), Osaka (2008), Paris (2010), Odense (2012), and Castellón (2014).

In 1992, MIT Press introduced the quarterly journal *Adaptive Behavior*, now published by SAGE Publications. The establishment of the International Society of Adaptive Behavior (ISAB) in 1995 further underlined the emergence of adaptive behaviour as a fully fledged scientific discipline. The present proceedings provide a comprehensive and up-to-date resource for the future development of this exciting field.

The articles cover the main areas in animat research, including the animat approach and methodology, perception and motor control, evolution, learning, and adaptation, and collective and social behaviour. The authors focus on well-defined models, computer simulations, or robotic models that help to characterise and compare various organisational principles, architectures, and adaptation processes capable of including adaptive behaviour in real animals or synthetic agents, the animats.

This conference and its proceedings would not exist without the substantial help of a wide range of people. Foremost, we would like to thank the members of the Program Committee, who thoughtfully reviewed all the submissions and provided detailed suggestions on how to improve the articles. We are also indebted to our sponsors. And, once again, we warmly thank Jean Solé for the artistic conception of the SAB 2016 poster and the proceedings cover.

We invite readers to enjoy and profit from the papers in this book, and look forward to the next SAB conference in 2018.

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From Animals to Animats 14

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