

# **COGNTIVE 2022**

The Fourteenth International Conference on Advanced Cognitive Technologies and Applications

April 24 - 28, 2022

Barcelona, Spain

# **COGNITIVE 2022 Editors**

Jaime Lloret Mauri, Universitat Politecnica de Valencia, Spain

#### Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2022) by International Academy, Research, and Industry Association (IARIA) Please refer to the Copyright Information page.

Printed with permission by Curran Associates, Inc. (2023)

International Academy, Research, and Industry Association (IARIA) 412 Derby Way Wilmington, DE 19810

Phone: (408) 893-6407 Fax: (408) 527-6351

petre@iaria.org

## Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA Phone: 845-758-0400

Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

## **Table of Contents**

Language and Image in Behavioral Ecology  Muneo Kitajima, Makoto Toyota, Jerome Dinet, Clelie Amiot, Capucine Bauchet, and Hanna Verdel	1
No Time to Crash: Visualizing Interdependencies for Optimal Maintenance Scheduling Milot Gashi, Belgin Mutlu, Stefanie Lindstaedt, and Stefan Thalmann	11
Reasoning and Arguments in Negotiation. Developing a Formal Model <i>Mare Koit</i>	17
Guidelines for Designing Interactions Between Autonomous Artificial Systems and Human Beings <i>Muneo Kitajima, Makoto Toyota, and Jerome Dinet</i>	23
A Robust Learning Rule for Memristor-based Synapses Competitive with Supervised Learning in Standard Spiking Neural Networks  Thomas F Tiotto, Jelmer P Borst, and Niels A Taatgen	32
Comparison of Visual Attention Networks for Semantic Image Segmentation in Reminiscence Therapy  Liane-Marina Messmer and Christoph Reich	34