

TriCoLore 2018

Creativity — Cognition — Computation

Joint Workshop Proceedings
C3GI | ISD4 | SCORE

held at the

Free University of Bozen-Bolzano
December 13 | 14 | 15, 2018

Bozen-Bolzano, South Tyrol, Italy
<https://tricolore.inf.unibz.it/>

Editors

Oliver Kutz | Maria M. Hedblom

And for the TriCoLore Workshops _____

Tarek R. Besold, Roberto Confalonieri, Oliver Kutz, Carlos León (C3GI)

Maria M. Hedblom, Oliver Kutz, Tony Veale (ISD4)

John Bateman, Oliver Kutz (SCORE)

PREFACE

TriCoLore 2018

The spatial and temporal gathering of the three scientific events CG3I, ISD and SCORE was baptised TriCoLore as a wordplay on the focus of the trinity of Creativity, Cognition and Computation. The event was hosted by the Faculty of Computer Science of the Free University of Bozen-Bolzano, Italy, and took place in the Headquarter facilities of EURAC Research, Bozen-Bolzano, on December 13–15th, 2018. We briefly describe the three co-located events.

C3GI was the 7th International Workshop on Computational Creativity, Concept Invention, and General Intelligence, following events hosted in 2017 in Madrid, Spain, at ESSLI 2016, Bozen-Bolzano, Italy, at UNILOG 2015, Istanbul, France, at ECAI 2014, Prague, Czech Republic, at IJCAI 2013, Beijing, China, and at ECAI 2012, Montpellier, France. For an overview of the workshop series and for links to earlier proceedings, see <https://c3gi.inf.unibz.it>.

The Image Schema Day returned to Bozen-Bolzano for a fourth time to gather scholars interested in research at the intersections of developmental psychology, cognitive linguistics and artificial intelligence. The first two editions of the ISD were invitation-only, while the third edition took place at JOWO 2018 and features in the joint JOWO proceedings, published, as this volume, in the IAOA subseries of CEUR. For more information on previous editions see: <https://isd.inf.unibz.it>.

SCORE is a research collaboration between Universität Bremen, Germany, and the Free University of Bozen-Bolzano, Italy, funded by a DAAD-MIUR program. The project is devoted to advance the state of the art in research on cognitively inspired robotics where the theoretical focus on knowledge representation in Bozen-Bolzano is combined with the expertise on cognitive robotics and applied ontology in Bremen. More information about the collaboration can be found at: <http://www.inf.unibz.it/~okutz/score/>.

The overall mission of the conference was to provide a platform for the diverse communities interested in research at the intersection between human cognition and formal computation. Within this wide spectrum, researchers working on topics in Information Systems, Artificial Intelligence, Philosophy, Linguistics and Cognitive Science, both in theory and applications, were encouraged to participate.

TriCoLore 2018 was a great success. Particularly memorable were the five keynote talks by Marianna Bolognesi, Aldo Gangemi, Irene Mittelberg, Alessandro Oltramari and Marija Slavkovic, who all contributed short invited papers to this volume.

On the contributing side, the event received submissions from over eight different countries. Of these submissions, 12 papers were eventually accepted for presentation at the conference. All accepted publications can be found in this volume. The papers span from linguistics to formal knowledge representation to cogni-

tive robotics, connected through the core theme: creativity and the theory of image schemas, areas of research at the intersection between human cognition and computation.

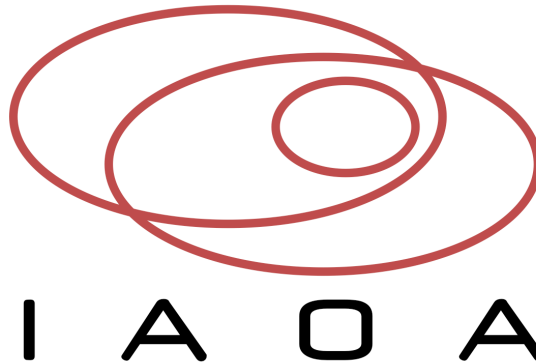
Acknowledgements

We would like to thank the program committee members and the additional reviewers for their timely reviewing. We thank our invited keynote speakers — Marianna Bolognesi, Aldo Gangemi, Irene Mittelberg, Alessandro Oltramari and Marija Slavkovik—for their support and contributions. Moreover, we would like to extend our gratitude to the Free University of Bozen-Bolzano and its event management team as well as EURAC Research who, by providing generous financial support resp. hosting facilities, helped to make the event possible.

The event was further supported by the International Association for Ontology and its Applications ([IAOA.org](http://iaoa.org)) and these proceedings appear in their dedicated CEUR subseries at <http://ceur-ws.org/iaoa.html>. Through the organisation of the SCORE workshop, we moreover enjoyed financial support from the Deutscher Akademischer Austauschdienst (DAAD) and the Ministero dell'Istruzione dell'Università e della Ricerca (MIUR) via a DAAD-MIUR mobility program.



Freie Universität Bozen
Libera Università di Bolzano
Università Lìedia de Bulsan



TriCoLore 2018 – Organisation

General Chairs

Oliver Kutz	Free University of Bozen-Bolzano, Italy
Maria M. Hedblom	Free University of Bozen-Bolzano, Italy

Additional Organising Chairs

John Bateman	Universität Bremen, Germany
Tarek R. Besold	Alpha Health AI Lab, Spain
Roberto Confalonieri	Alpha Health AI Lab, Spain
Carlos León	Complutense University of Madrid, Spain
Tony Veale	University College Dublin, Ireland

Program Committee

George Athanasopoulos	Durham University, UK
Bart Gajderowicz	University of Toronto, Canada
Pablo Gervás	Complutense University of Madrid, Spain
Kazjon Grace	University of Sidney, Australia
Dagmar Gromann	Dresden University, Germany
Maximos Kaliakatsos-Papakostas	Aristotle University of Thessaloniki, Greece
Werner Kuhn	University of California, US
Stephen Mcgregor	Queen Mary University of London, UK
Gonzalo Mendez	Complutense University of Madrid, Spain
Todd Oakley	Case Western Reserve University, US
Alessandro Oltramari	Bosch Research and Technology Center, US
Enric Plaza	Artificial Intelligence Research Institute, Spain
Marco Schorlemmer	Artificial Intelligence Research Institute, Spain
Gem Stapleton	University of Brighton, UK
Alan Tapscott	Universitat Pompeu Fabra Barcelona, Spain
Mark Turner	Case Western Reserve University, US

Additional reviewers

Pietro Galliani	Free University of Bozen-Bolzano, Italy
Philipp Wicke	University College Dublin, Ireland

TriCoLoRe

Creativity | Cognition | Computation

December 13 | 14 | 15 - 2018

Free University of Bozen-Bolzano

Workshops

ISD
C3GI
SCORE

Keynotes

MARIANNA BOLOGNESI
ALDO GANGEMI
IRENE MITTELBERG
ALESSANDRO OLTRAMARI
MARIJA SLAVKOVIK



DAAD

Organisers
Oliver Kutz
Maria M. Hedblom
Workshop chairs
John Bateman
Tarek R. Besold
Roberto Confalonieri
Maria M. Hedblom
Oliver Kutz
Carlos Leon
Tony Veale

Faculty of Computer Science
Dominikanerplatz 3
39100 Bozen-Bolzano,
Italy



unibz

tricolore.inf.unibz.it