Preface

Welcome to the proceedings of the 12th International Conference on Computational Creativity (ICCC 2021), held from September 14 to 18, 2021. The original plan was for the conference to be held in México City, on the campus of the National University (UNAM, Universidad Nacional Autónoma de México) and the campus of the Universidad Autónoma Metropolitana (UAM)—Cuajimalpa. While last year's conference was the first in which there was a repeat of the host country (Portugal), this year would have been the first time to repeat the host city, albeit the host institution would have been different. However, the current Covid pandemic and its negative impact on international travel forced us to organize the conference virtually instead of having a physical meeting in México City.

We received 57 submissions for long (regular, normal) papers this year, ultimately accepting 32 of them (21 for oral presentation and 11 for poster presentation) based on the recommendations of the Program Committee members who reviewed them. Likewise, we received 71 submissions for short papers, ultimately accepting 30 (19 for oral presentation and 11 for poster presentation). Of the accepted papers, both long and short, 14 were earmarked by their authors to be presented as demos during the conference. The accepted papers originated in academic and research institutions from 23 countries (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Israel, Italy, Japan, México, the Netherlands, Portugal, Saudi Arabia, Slovenia, Spain, Taiwan, Turkey, the United States of America, and the United Kingdom).

In addition to the oral, poster, and demo presentations given at the conference based on the accepted papers, ICCC 2021 also included the following associated events:
- Four tutorials (Avatars for All!, organized by Eyal Gruss; Live Coding Music with Machine Learning in the Browser, organized by Francisco Bernardo, Chris Kiefer, and Thor Magnusson; Therapeutic Computational Creativity, organized by Louis McCallum and Mick Grierson; and Using Machine Learning to Build Musical Instruments in the Browser with MIMIC, organized by Maya Ackerman and Galen Buckwalter),
- One workshop (Second Workshop on the Future of Co-Creative Systems),
- An art exhibition (curated by Lilla LoCurto and Bill Outcault),
- An AI keynote lecture (Machine Learning Design for Creative Pursuits by Douglas Eck),
- Two "other perspectives" keynote lectures (Animal Innovation by Allison Kaufman and James C. Kaufman; and Comedy by Numbers: A Comedy Writer's Thoughts on Algorithmic Approaches to Humour by Charlie Skelton),
- A panel on Opportunities and Challenges for Computational Creativity as a Commercial Application (moderated by F. Amílcar Cardoso, with Maya Ackerman, Allison Parrish, and Davar Ardalan as panelists),
- A Doctoral Consortium (organized by Diarmuid O'Donoghue),
- A tribute to Robert Keller (organized by Anna Jordanous and Maya Ackerman), and
- Various virtual social gatherings and meetings.

We would like to acknowledge the assistance of the Program Committee members (see below) who helped review the submissions, the student volunteers who helped out with multiple tasks

before and during the conference, as well as the following individuals without whose help we would not have been able to organize ICCC 2021:

- Constanza Ybarra Trapote, Proceedings Preparation Support
- Carlos G. Isaac, Technical and Artistic Support
- Diarmuid O'Donoghue, Doctoral Consortium Chair
- Caleb Rascón, Workshops and Tutorials Chair
- Jesús Pérez Romero, Media Chair

In any given year, organizing the ICCC is both a great responsibility and a great privilege. While the responsibility is perhaps more obvious than the privilege, the latter more than compensates for the occasionally frenzied moments of the former. As organizers and chairs, we get to see the conference take shape for another year, and observe the deep currents that shape our field rise to the surface as waves of one kind or another. We are privileged with an early glimpse of how the field is moving and maturing, as it reflects—or bucks—the trends that shape other branches of AI and Computer Science. Papers are rated by reviewers not by how well they reflect these trends, but on their own individual merits, so it is fascinating to see how representative the final selection is of the whole. This year we can see the field balance at the edge of two shifting plates of AI research: the "old school" AI of symbols, rules and explicit knowledge representations, and the "new school" AI of statistics, big data and deep learning. The shift to the latter is evident in all branches of AI, but ICCC still retains a fondness and a respect for the former. This is a field and a community where the two can sit cheek-by-jowl and where researchers, and systems, can potentially learn from each other.

One especially bittersweet aspect of an event like this is the need to reject papers that do not make the cut, not because they are lacking in merit but because we cannot accommodate them all in the tight schedule of a three-day conference. The short paper format allows for some of these papers to find their way into the conference in a condensed form, one that benefits from the reviewers' comments of the first round, so we are heartened to see the conference enriched by the work of authors who availed of this possibility. This is another privilege of being an organizer of ICCC. We get to see the review process in full flow, to take the pulse of the field by reading not just the papers but all of their reviews too, for those that make the cut and those that do not, and for those that find a second life as short papers and system demonstrations. We feel confident that when you see the lineup of papers that the reviewers have collectively chosen for us this year—for it is the reviewers, not the program chairs, that ultimately make all the key decisions—you too will agree that our field is in rude good health.

Andrés Gómez de Silva Garza, *Program Co-Chair*—Instituto Tecnológico Autónomo de México (ITAM)
Tony Veale, *Program Co-Chair*—University College, Dublin
Wendy Aguilar, *Local Chair*—Instituto de Investigaciones en Matemáticas Aplicadas y en Sistemas (IIMAS), Universidad Nacional Autónoma de México (UNAM)
Rafael Pérez y Pérez, *General Chair*—Universidad Autónoma Metropolitana (UAM) Cuajimalpa

México City/Dublin, September 2021

Program Committee

Program Committee Members:

The listed affiliations, sourced from EasyChair, are assumed to be correct at the time these proceedings were prepared.

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Ashok Goel—Georgia Institute of Technology
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Colin Johnson—University of Nottingham
Dan Ventura—Brigham Young University
Daniel Brown—University of Waterloo
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Diarmuid O'Donoghue—Maynooth University
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Tatsuo Unemi—Soka University

Tony Veale—University College Dublin

Wendy Aguilar—IIMAS, Universidad Nacional Autónoma de México

ICCC 2021 Art Exhibition

Curators: Lilla LoCurto and Bill Outcault

Exhibits:

David Young
      ten images, *Dandelion series*, 2020

David Rokeby
      six images & one video, *The Giver of Names*, (1991-) (in progress)

Alexander Reben
      one video, *Five dollars can save the planet*, 2018

Ellen Pearlman
      one video, *Noor-A Brain Opera*, 2016

Jeroen Van derMost
      one video and three images, *The Shard Transformation*, 2021

Current Team (Collaborators: Provides Ng, Eli Joteva, Ya Nzi, and Artem Konesvkikh)
      one video, *Current*, 2020

Derek Curry and Jennifer Gradecki
      one video, *Infodemic*, 2021

Ken Goldberg and the AlphaGarden Collective
      one video, *AlphaGarden*, 2020

Mary Flanagan
      one video, *Grace [AI]*, 2019

Liliana Farber
      eleven images, *Terram in Aspectu*, 2019

Jake Elwes
      interactive website, *The Zizi Show*, 2020

Catie Cuan
      one video, *OUTPUT*, 2018

Sofian Audry and Maurizio Maritnucci (akaTeZ)