# TURING ARTS SYMPOSIUM



**Within The AISB/IACAP World Congress 2012**
**Birmingham, UK, 2-6 July 2012**

Editors: Cate Dowd and Klem James

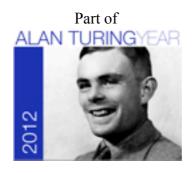Keynote Speaker: Clare Beavan

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Cate Dowd and Klem James

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# Foreword from the Congress Chairs

For the Turing year 2012, AISB (The Society for the Study of Artificial Intelligence and Simulation of Behaviour) and IACAP (The International Association for Computing and Philosophy) merged their annual symposia/conferences to form the AISB/IACAP World Congress. The congress took place 2–6 July 2012 at the University of Birmingham, UK.

The Congress was inspired by a desire to honour Alan Turing, and by the broad and deep significance of Turing's work to AI, the philosophical ramifications of computing, and philosophy and computing more generally. The Congress was one of the events forming the Alan Turing Year.

The Congress consisted mainly of a number of collocated Symposia on specific research areas, together with six invited Plenary Talks. All papers other than the Plenaries were given within Symposia. This format is perfect for encouraging new dialogue and collaboration both within and between research areas.

This volume forms the proceedings of one of the component symposia. We are most grateful to the organizers of the Symposium for their hard work in creating it, attracting papers, doing the necessary reviewing, defining an exciting programme for the symposium, and compiling this volume. We also thank them for their flexibility and patience concerning the complex matter of fitting all the symposia and other events into the Congress week.

John Barnden (Computer Science, University of Birmingham)
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# Turing Arts Symposium 2012

The Turing Arts symposium has grown connections between Turing's digital computing machines and the arts. The symposium opens up a discussion about mimicry, competition and random elements of machines introduced by Turing and the crossover with man/machine ideas in science fiction films, Surrealism, digital music, drama and art. Turing's thought that machines might learn and compete with humans at select tasks has provided creative triggers for artistic motifs, pushing mimicry much further than 'machines mimicking machines'. In science fiction films genetically engineered 'replicants' (distinctly digital creatures) compete in chess and for life itself. Likewise, contemporary music software competes with humans as it turns voice into song and aims to sound better than humans. Turing's ideas for learning machines also raised questions of how 'critical' a machine might become, alongside contemplation of random elements. The latter is also seen in Surrealism within fantasy man-machine concepts, alongside the interplay of meaningful and meaningless random events. Generative art produces similar outputs.

Turing's life was situated between automata of the machine age and the digital age, which he created himself via mathematical abstractions and a substitution system of symbols in 1936. Turing missed the space age of the late 1950s but his digital applications soon extended beyond the planet. Science fiction films from the 1960s then planted seeds for extending Turing's digital ideas of machine consciousness to outer space, including artificial dialogue and synthetic emotions in outer space, taking the potential of machine intelligence to new levels of mimicry of human behaviour. Science fiction films also picked up on Turing's 'screwdriver intervention' for motherboards prone to programming errors, but failed in some stories to create genetic fitness tests for machines with expiry dates. The ebb and flow between Turing's ideas and the arts, and back into scientific research are profound. The conversation across these zones has only just begun in this year of Turing's 100th birthday celebration.

On behalf of the organising committee of this first Turing Arts symposium, I would like to thank the reviewers, the authors and all the members of the programme committee for their contributions. I hope that the Turing Arts symposium inspires further dialogue and greater appreciation for Turing's digital technology across disciplines, as well as awareness of the extent of Turing's intellectual life, beyond code-breaking.

*Cate Dowd*
*University of New England, Australia*

**Chair of the Turing Arts symposium**

Cate Dowd (University of New England, NSW, Australia).

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