Preface

The *Electronic Visualisation and the Arts* London 2020 Conference (EVA London 2020) is co-sponsored by the Computer Arts Society (CAS) and BCS, the Chartered Institute for IT, of which the CAS is a Specialist Group. 2020 marks the 30th anniversary of EVA London, which was first held at Imperial College London in 1990.

Of course, this is a difficult time for all conferences, with the coronavirus pandemic. The EVA London 2020 Conference was originally planned for 6–10 July 2020. This has been delayed with planned dates of 16–20 November 2020 for an entirely online event. However we have decided to go ahead with publishing the 2020 proceedings, both online, with open access via ScienceOpen, and also in our traditional printed form. Details of hardcopy publication dates and conference updates will be found on the EVA London website.

Over recent decades, the EVA London Conference on *Electronic Visualisation and the Arts* has established itself as one of the United Kingdom’s most innovative and interdisciplinary conferences. It brings together a wide range of research domains to celebrate a diverse set of interests, with a specialised focus on visualisation.

The long and short papers in this volume cover varied topics concerning the arts, visualisations, and IT, including 3D graphics, animation, artificial intelligence, creativity, culture, design, digital art, ethics, heritage, literature, museums, music, philosophy, politics, publishing, social media, and virtual reality, as well as other related interdisciplinary areas.

The EVA London 2020 proceedings presents a wide spectrum of papers, demonstrations, Research Workshop contributions, other workshops, and for the fifth year, the EVA London Symposium, with invited contributors.

This year for the conference in July, a number of associated evening events were planned, on Women in the Digital Arts, a 30th birthday celebration for EVA, and Lumen Art Prize long list announcements. We plan to include what we can either in November or at EVA London 2021. A feature of EVA London, started in 2018, has been a Research in Education Day, immediately after the main conference, bringing together students and associated staff from universities in the London area to enable presentations and networking. In the circumstances, we now aim to hold this in conjunction with EVA London 2021.

As in previous years, there are Research Workshop contributions in this proceedings, aimed at encouraging participation by postgraduate students and early career artists. The Research Workshop contributors are offered bursaries to aid participation. In particular, EVA London is again liaising with Art in FLUX, a London-based group of digital artists.

The EVA London 2020 proceedings includes long papers and short “poster” papers from international researchers inside and outside academia, from graduate artists, PhD students, industry professionals, established scholars, and senior researchers, who value EVA London for its interdisciplinary community. The conference also features keynote talks in normal times.

This publication has resulted from a selective peer review process, fitting as many excellent submissions as possible into the proceedings. This year, submission numbers were similar to the high numbers in the previous three years, with an excellent standard overall. It is pleasing to have so many good proposals from which to select the papers that have been included.

EVA London is part of a larger network of EVA international conferences. EVA events have been held in Athens, Beijing, Berlin, Brussels, California, Cambridge (both UK and USA), Canberra, Copenhagen, Dallas, Delhi, Edinburgh, Florence, Gifu (Japan), Glasgow, Harvard, Jerusalem, Kiev, Laval, London, Madrid, Montreal, Moscow, New York, Paris, Prague, St Petersburg, Thessaloniki, and Warsaw. Further venues for EVA conferences are very much encouraged by the EVA community.
As noted earlier, this proceedings is a record of accepted submissions to EVA London 2020. Given the uncertainties of the pandemic crisis, we are also encouraging online presentations, which can be linked from the EVA London 2020 website.

It is sad to note that the wide EVA community has already been affected by the coronavirus pandemic. We are very sorry to report that Kim Veltman, twice a keynote speaker at EVA London Conference, most recently in 2017, sadly passed away due to COVID-19 on 1 April 2020. Anyone who met Kim will know his unique sense of humour and remember that twinkle in his eye during any conversation with him. This proceedings is dedicated to his memory. Our heart goes out to his family.

Dedicated to Kim H. Veltman
(5 September 1948 – 1 April 2020)
Historian of science and art

EVA London 2020 gratefully acknowledges:

- **BCS, The Chartered Institute for IT** for hosting EVA London at its central London office, and BCS **Computer Arts Society** (CAS) Specialist Group for providing bursaries. Special thanks go to Kerry Wear at the BCS, for help with budgeting, registration, and other organisational arrangements, as well as Becky Youe, Florence Leroy, and Ian Borthwick of the BCS Electronic Workshops in Computing (eWiC) series, for support with the printed and online conference proceedings.
- **The Anthill Social** and Tom Keene for website hosting and support.

Thank you to staff at the BCS Swindon and London offices for help with administrative and IT support.

Thanks to all the contributors for making EVA London a continuing success.
Committee

- EVA London 2020 Conference Chair: Graham Diprose
- BCS CAS Chair: Nick Lambert
- EVA London 2020 Programme Co-Chairs: Jon Weinel, Jonathan P. Bowen, Graham Diprose, Nick Lambert
- EVA London 2020 Symposium Co-Chairs: Jonathan P. Bowen, Tula Giannini, Gareth Polmeer
- EVA London 2020 Research Workshop Chair: Graham Diprose
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- EVA London 2020 Bursaries: Graham Diprose
- EVA London 2020 Website: Jonathan P. Bowen
- EVA International Liaison: Terry Trickett
- EVA London Honorary Chair: James Hemsley
- EVA London Honorary Committee Member: George Mallen

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Terry Trickett       Trickett Associates
Jon Weinel           London South Bank University
List of Reviewers

The people listed below reviewed submissions for the EVA London 2020 Conference and the Organising Committee is very grateful for their voluntary help in the selection process.

- **EVA London 2020 Programme Committee:**

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Additional reviews were provided by Richard Coleman, covering those unable to do reviewing.
Papers:

**Digital Culture and Museums**

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Museum Websites of the First Wave: The rise of the virtual museum  
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