Preface of the 4th International Conference on the Challenges, Opportunities, Innovations and Applications in Electronic Textiles (E-Textiles 2022) †

Steve Beeby 1, Kai Yang 2, Russel Torah 1,*, Beckie Isaia 1 and Theodore Hughes-Riley 3

1 School of Electronics & Computer Science, University of Southampton, Southampton SO17 1BJ, UK; sbp@ecs.soton.ac.uk (S.B.); r.j.isaia@soton.ac.uk (B.I.)
2 Winchester School of Art, University of Southampton, Southampton SO23 8DL, UK; ky2e09@soton.ac.uk
3 Advanced Textiles Research Group, Nottingham Trent University, Nottingham NG1 4GG, UK; theo.hughes-riley@ntu.ac.uk
* Correspondence: rnt@ecs.soton.ac.uk
† All papers published in the volume are presented at the 4th International Conference on the Challenges, Opportunities, Innovations and Applications in Electronic Textiles, Nottingham, UK, 8–10 November 2022.

Abstract: The 4th International Conference on the Challenges, Opportunities, Innovations and Applications in Electronic Textiles (E-Textiles 2022) was held in Nottingham (United Kingdom) on 8–10 November 2022.

Keywords: electronics; wearables; smart fabrics; electronic textiles; E-textiles; sensing; healthcare devices; textile antennas; energy harvesting; printed electronics; knitted E-textiles; functional yarns

1. Introduction

The United Kingdom’s E-Textiles Network was established in 2018 with the goal of building the electronic textiles community and acting as a bridge between academia and industry. A key objective of the Network was to establish an international conference on the topic where the latest research and developments could be shared and disseminated. The first E-Textiles conference was held in London in 2019, and E-Textiles 2022, the 4th edition of the conference, was held in Nottingham as a hybrid virtual and in-person event. It included a mix of invited and accepted speakers from around the world. Accepted papers were peer-reviewed, and this collection of papers from the conference presents the latest work on a range of electronic textile applications and technologies.

2. Conference Days

The event was held in Nottingham from the 8th to the 10th of November 2022. The technical program was organized into six sessions covering the following topics: sensing and embedded systems, applications and future trends, manufacturing and standards, reliability and sustainability, design and fashion, and immersive technologies.

The first day of the conference focused on E-textiles in action, where participants could bring demonstrations to showcase, and finished with a talk on E-textiles research at Nottingham Trent University.

The next two days consisted of a mixture of in-person and remote presentations, as well as a panel discussion on “Applications and Future Trends for E-Textiles”, and a poster session.

There were two keynote talks, the first being on “The Challenges of Bringing Garment Based E-Textiles to the Mass Consumer Market” by Martin Ashby (Prevayl, UK). The second keynote talk, “Smart Textiles for Personalized Health Care”, was presented by Dr Jun Chen (UCLA, USA).
Fifty-six papers were submitted to the conference, and twenty are published in a volume of MDPI’s *Engineering Proceedings* [1].

3. E-Textiles 2022 Prizes

E-Textiles 2022 awarded three prizes, which were sponsored by MDPI *Micromachines*.

3.1. Best Paper Award

**Winner:** Michelle Farrington (AFFOA, USA) “New Frontiers in Advanced Fibers and Fabrics”.

3.2. Best Student Paper Award

**Winner:** Xiaona Yang (Donghua University, PRC) “Direct Wet-Spun Single-Walled Carbon Nanotubes-Based p-n Segmented Filaments toward Wearable Thermoelectric Textiles”.

3.3. Best Student Poster Award

**Winner:** Chengning Yao (Imperial College London, UK) “Thermally conductive h-BN/polymer composites for e-textiles thermal management”.

4. Committees

*Conference chair*
Dr Theodore Hughes Riley, Nottingham Trent University

*Local Organizing Committee*
Prof. Tilak Dias, Nottingham Trent University
Dr Yang Wei, Nottingham Trent University
Dr Arash Shahidi, Nottingham Trent University
Kalana Marasinghe, Nottingham Trent University
Dr Pasindu Lugoda, Nottingham Trent University
Jasbir Shanker, Defence and Security Accelerator (DASA)
Professor Steve Morgan, University of Nottingham

*Technical Programme Committee*
Dr Russel Torah (Chair), University of Southampton
Dr Jun Chen, University of California, Los Angeles (UCLA)
Dr Jess Jur, North Carolina State University
Prof. Anne Schwarz-Pfeiffer, Hochschule Niederrhein
Sigrid Rotzler, Fraunhofer IZM
Mark Catchpole, Conductive Transfers
Dr Yang Wei, Nottingham Trent University
Dr Yi Li, University of Southampton
Dr Ishara Dharmasena, Loughborough University
Dr Rebecca Stewart, Imperial College London
Dr Debra Carr, Defence and Security Accelerator (DASA)
Dr Sasikumar Arumugam, University of Southampton
Jessica Saunders, London College of Fashion
Dr Abiodun Komolafe, University of Southampton
Dr Theodore Hughes-Riley, Nottingham Trent University
Dr Arash Moghaddassian Shahidi, Nottingham Trent University
Jessica Stanley, Nottingham Trent University
Dr Sheng Yong, University of Southampton
Prof. John Wilson, Power Textiles Limited
Dr Kun Zhang, Donghua University
Dr Kai Yang, University of Southampton
Jane McCann, University of Wales, Newport

*International Conference Steering Committee*
Prof. Steve Beeby (Chair), University of Southampton
Dr Kai Yang, University of Southampton
Dr Jess Jur, North Carolina State University
Christian Dalsgaard, Smart Textiles Alliance
Malte von Krshiwoblozkj, Fraunhofer IZM
Prof. Vladan Koncar, GEMTEX Research Laboratory, ENSAIT
Prof. George Stylios, Heriot-Watt University
Dr Laura Salisbury, Royal College of Art
Dr Kun Zhang, Donghua University
Prof. Anne Schwarz-Pfeiffer, Hochschule Niederrhein
Dr Sara Robertson, Royal College of Art
Prof. Henry Yi Li, University of Manchester
Dr Jun Chen, University of California, Los Angeles (UCLA)

Technical Support
Beckie Isaia, University of Southampton

5. Sponsorship
E-Textiles 2022 would like to thank the following sponsors for supporting this event:
MDPI Micromachines
Softmatter
Medical Technologies Innovation Facility (MTIF)
It is our great pleasure to announce that the 5th International Conference on the Challenges, Opportunities, Innovations and Applications in Electronic Textiles (E-Textiles 2023) will be held in Ghent, Belgium from the 14th to the 16th of November 2023 (https://e-textileconference.com/).

Conflicts of Interest: The authors declare no conflict of interest.

Reference

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.