

Building Community: Design Education for a Sustainable Future

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PROCEEDINGS OF THE 19TH INTERNATIONAL CONFERENCE
ON ENGINEERING AND PRODUCT DESIGN EDUCATION,
HiOA UNIVERSITY, OSLO, NORWAY, ON THE 7th & 8th SEPTEMBER 2017

Building Community: Design Education for a Sustainable Future

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Cover Credit: Dyna Lighthouse (Dyna Fyr).

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The Institution of Engineering Designers is a charitable body, incorporated by Royal Charter registered in the UK No: 1145678

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The Design Society is a charitable body, registered in Scotland,
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Published by:

The Design Society
Institution of Engineering Designers

ISBN: 978-1-904670-84-1

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Foreword

Building Community: Design Education for a Sustainable Future

The 19th International Conference on Engineering and Product Design Education (E&PDE) was held at the Oslo and Akershus University College of Applied Sciences (HIOA) the 7th and 8th of September 2017.

The conference was hosted by the Institute of Product Design HIOA, at Kjeller and Oslo, Norway, and made the main event for the centennial celebration of the institute. We planned and arranged the conference in close collaboration with the Design Education Special Interest Group (DESIG) of the Design Society, and the Institution of Engineering Designers (IED).

The E&PDE conference was initiated in 1999 in the United Kingdom and was consolidated as an international conference in 2004. Its objective is to facilitate conversations between people from within education and industry who are interested in sharing expertise on the implementation and analysis of contemporary and developing methodologies in engineering and design education. It provides educators and researchers from product development, engineering and industrial design, together with industry and government representatives, with a platform for discussion on topical educational issues in design education and their future directions.

Conference Theme

Our society's future is determined by today's education. The knowledge and skills acquired by students in design and engineering contribute to the establishment of new products and services that influence systems on various levels of society. Designers and engineers develop solutions to problems recognised by society, such as machines that make washing clothes easier and technology that makes information more accessible. However, the creations of these professionals sometimes have additional, unwanted consequences for both people and nature. That is, students often do not obtain sufficient knowledge and skills to explore the possible rebound effects of their developments. This points to how important it is to provide students with alternative understandings, skills and methods rather than merely transferring what individual educators consider to be central to their disciplines. Accordingly, one must question the idea of basics in education and look towards how students can become critical thinkers as professionals rather

than uncritical doers. This involves educators ending their ideological indoctrination of students and instead opening a path for students to explore and discover for themselves what might be meaningful, engaging, good, effective, ethical and so forth. The theme 'Building Community: Design Education for a Sustainable Future' encourages the exploration of yet unidentified factors that will contribute to a sustainable future.

The proceedings were based on a call for research that could contribute to break with the established and recognized education paradigms in order to:

- Provide a platform for a broad variety of participants
- Explore how managing different perspectives on community can help students and scholars to develop projects in a larger and more complex context
- Seek new perspectives on what "building community" means and involves
- Seek aesthetic engagement with game dynamics in product design
- Explore the broadening of the design profession on health and service design.
- Explore how engineering and product design education contributes to a balanced development of technological opportunities and the needs of people in the future

These aims were addressed through the following conference topics related to the Engineering and Product Design Education that made the tracks for presentation:

- Design education in practice
- Collaboration in industrial involvement in design education
- Creativity and innovation in design education
- Ethics and social issues in design education
- Assessment methods in design education
- New design education paradigms
- Student papers related to design education
- Universal design in education
- Aesthetics and cultural practice in design education
- Design education for the general public

During the conference 18 countries were represented. 172 contributions were received which explored the various subthemes. Amongst them were 16 student contributions. After reviewing abstracts, full paper submissions and subsequent revisions 125 contributions were selected to be included in the proceedings, 11 of which were poster presentations at the conference.

Acknowledgements

This 2017 edition of the E&PDE conference was made possible through the commitment and efforts of many people. We would like to thank Ahmed Kovacevic, Judith Grace, Lyndon Buck, Erik Bohemia and Jean Evans for very effective and warm collaboration.

Thanks to all the members of the international academic review board who contributed to ensure the quality of the papers and presentations and of course all colleagues and students at the Institute of Product Design, that contributed to the planning and running of the conference.

Christian Tollestrup

Arild Berg, Tore Gulden and Nenad Pavel

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Zainal Abidin, Shahriman	Universiti Teknologi MARA
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Zeiler, Wim	TU Eindhoven



The Design Society is an international non-governmental, non-profit making organisation whose members share a common interest in design. It strives to contribute to a broad and established understanding of all aspects of design and to promote the use of results and knowledge for the good of humanity.

The Design Society was founded in 2000, taking on the previous activities and responsibilities of the Workshop Design Konstruktion (WDK) Society, especially the organisation of the International Conference on Engineering Design (ICED) series of conferences, which had been running since 1981. Since 2000 the Society has organised ICED conferences in Stockholm, Melbourne, Paris, Stanford, Copenhagen, Seoul and Milan. The upcoming 2017 conference will be hosted in Vancouver.

The Society has members from over forty countries and it organises very popular events such as the Engineering and Product Design Education conferences and the International Conference on Design Creativity among many other activities. The Society is very active in publishing papers and proceedings on design topics, and it has a developing portfolio of other design resources available to members including a repository of theses and collaborative agreements with a number of design research journals.

The Design Society concentrates on activities that transcend national boundaries, and, where possible, will seek to complement national activities. The objects of the Society are to promote the development and promulgation of understanding of all aspects of design across all disciplines by:

- Creating and evolving a formal body of knowledge about design
- Actively supporting and improving design research, practice, management and education
- Promoting co-operation between those in research, practice, management and education
- Promoting publications and their dissemination
- Organising international and national conferences and workshops
- Establishing Special Interest Groups and other specialist activities
- Co-operating with other bodies with complementary areas of interest

The Design Society is a charitable body, registered in Scotland, number SC031694. Registered Company Number: SC401016.

The Design Society is open to new members.
www.designsociety.org



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Established in 1945, Incorporated by Royal Charter in 2012, the Institution of Engineering Designers is the premier organisation in the UK to represent those working in the many fields of engineering and product design.

Our members enjoy a range of benefits, including mentoring and guidance to professional registration, exclusive access to our job board and newsletters to keep members up to date with relevant developments and events. We host regular events which offer our members the chance to network with other professionals and members receive the Institution's bi monthly journal – Engineering Designer.

We are committed to encouraging CPD for all our members, and support ongoing training and skills development.

We offer a wide range of professional registrations: our own register for professional product designers includes the exclusive Chartered Technological Product Designer (CTPD) which is on a par with all other Chartered registrations and exists to provide professional recognition and standing to those suitably qualified and competent persons working in Product Design, with the sister grade of Registered Product Designer (RProdDes) for those not working at Chartered level.

We are licensed by the Engineering Council to assess candidates wishing to join the register of Professional Engineers and Technicians and we also accredit academic and training courses, for registration with either the Institution or with the Engineering Council. Those members who achieve the appropriate academic and competence standards receive Chartered Engineer, Incorporated Engineer or Engineering Technician status.

We are also a licensed body of the Society for the Environment and are able to register suitably qualified and competent members as Chartered Environmentalists (CEnv).

We welcome members from any organisation that has a design function and employs design engineers and we have many academic teaching staff in membership. To find out more about becoming a member of the IED and a professional registered designer go to <http://www.ied.org.uk>

Keynote Speakers: Thursday 7th September 2017

INTERNATIONAL CONFERENCE ON ENGINEERING AND PRODUCT DESIGN EDUCATION
7 & 8 SEPTEMBER 2017, OSLO AND AKERSHUS UNIVERSITY COLLEGE OF APPLIED SCIENCES,
NORWAY

LIGHT IN THE PUBLIC REALM

James Carpenter, James Carpenter Design Associates

SUMMARY

Densification of cities present an accelerating need to revisit daylighting codes and zoning. In order to address daylight as a meaningful presence in the urban context, light needs to be understood as a public resource and one that offers a collective engagement with nature and our biological connection to nature.

All those who contribute to the built context of our daily lives might well have a host of ideas about design quality and purpose, working within varying economic restraints, but how often do they consider the essential place that our experience and perception of light plays in our lives? Do they consider our dependence on a temporal sense of light, both diurnal and seasonal, both to our physiological and psychological health?

Our interest is not so much a didactic approach to providing proven intensities or durations of light necessary to human health. We collaborate with engineers and scientists to have our work embody this knowledge, however our goal is a more poetic and aesthetic one that focuses on qualities of light and perception that embraces the necessary performative characteristics. Consequently the potential is for a design that articulates a powerful sense and perception of light within the very fabric that makes up the public realm, whether it be in the design of curtain walls or street furniture. At every scale of design there is an opportunity to articulate the presence of light and to unpack the dense information contained within light.

KEY MESSAGE:

Both civic and commercial contexts have an increased need for innovative strategies that heighten our collective awareness of light and nature. By working at the intersection of art, engineering and architecture, materials have the potential to activate and transform both private and public spaces with observable qualities of light that define a specific experience of place bound to a greater and collective sense of the universe.

THE FUTURE OF DESIGN: A DESIGN ANTHROPOLOGICAL PERSPECTIVE

Anna Kikrah, Oslo and Akershus University College of Applied Sciences

KEYWORDS: design anthropology, design education, design practice, user experience

SUMMARY

The future of design is a series of reflections from a design anthropological perspective. My job has often been to unveil truths for my clients. I have always said that there is no one truth, that in any argument - both sides are correct - partially. But there is one truth: the world is changing and will continue to change. We are part of this change as long as we breathe on this planet.

While we often speak of the positive effects of our work and the pride in relation to user experience and design, we neglect to articulate negative consequences of our work and how this affects the world we live in. With this in mind, what should our focus be in the next ten years and how can we incorporate this in the education of designers as well as in the practice of design?

