Design education: collaboration and cross-disciplinarity [front matter]

This item was submitted to Loughborough University's Institutional Repository by the/an author.

Citation: BOHEMIA, E. ... et al., 2016. Design education: collaboration and cross-disciplinarity [front matter]: proceedings of 2016 18th International Conference on Engineering and Product Design Education (DS 83, E&PDE 16), Aalborg, Denmark, 8-9 September 2016, pp.i-xxxii.

Metadata Record: https://dspace.lboro.ac.uk/2134/26549

Version: Published

Publisher: © Design Society and Institution of Engineering Designers

Rights: This work is made available according to the conditions of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) licence. Full details of this licence are available at: https://creativecommons.org/licenses/by-nc-nd/4.0/

Please cite the published version.
Design Education: Collaboration and Cross-Disciplinarity

Editors: Erik Bohemia, Lyndon Buck, Kaare Eriksen, Ahmed Kovacevic, Nis Ovesen and Christian Tollestrup
Design Education: Collaboration and Cross-Disciplinarity

Erik Bohemia
Loughborough University, Design Education Society Special Interest Group, Design Society

Lyndon Buck
Buckinghamshire New University

Kaare Eriksen
Aalborg University

Ahmed Kovacevic
City University, Design Education Society Special Interest Group, Design Society

Nis Ovesen
Aalborg University

Christian Tollestrup
Aalborg University
Table of Contents

xix   Foreword

xxviii Design Society

xxix  Institution of Engineering Designers

xxx   Keynote: Marianne Stokholm
     - Dogmas in Danish Design Educations

xxxii Keynote: Morten Bo Jensen – Vipp – The History

Chapter 1 – Responding to Social Issues

2   Designing Social Involvement in Design Courses/ Programmes
    Rita Assoreira Almendra and Gonçalo André Moco Falcão

8   Developing Concepts that Promote Energy Saving Technology for Ageing Populations
    Craig Whittet, Andrea Taylor, Guy Walker, Stuart Galloway, Bruce Stephen, Catherine Docherty, Craig Lynn, Edward Owens and Michael Danson

15  Social Innovation and Technology Implementation in Product Design Engineering
    Marcela Velasquez-Montoya

21  Designing for Small Bathrooms
    Arnt Kåre Sivertsen and Arild Berg

27  Talking with Experts – From Research to Objects: Using Academic Research as the Basis of Collaborative and Cross Disciplinary Projects for Design Students
    Susana Soares and Deborah Andrews
Chapter 2 – Collaborative Environments

34 Teaching Design Thinking: Evolution of a Teaching Collaboration across Disciplinary, Academic and Cultural Boundaries
Carolina Gill and Merce Graell

40 A Little Knowledge is a Dangerous Thing? - Do BSc Product Design Courses Discourage Collaboration?
James Meadwell, David Terris and Peter Ford

Kaisa Still and Wim Soens

52 Co-Talk? The Role of Collaboration Partners in Design Education
Tatjana Leblanc and Mario Gagnon

58 Development of Methodology for Distributed Collaborative Design Environment
Balazs Vidovics, Nikola Vukasinovic, Neven Pavkovic and Ahmed Kovacevic

Chapter 3 – Framing and Alignment of Projects in Design Education

66 Enhancing Sustainable Design – the use of National and International Standards in Design Education
Chris Dowlen, Brian Griffiths, Colin Ledsome, Claire Potter and Pat Winfield

71 The need for a Holistic Approach to Sustainability in new Product Development from the Designers Perspective
Peter Ford, James Meadwell and David Terris

77 Triple-loop-learning: An Instrumentation Model for Engineering Design Innovation Education
Anders Berglund and Larry Leifer

83 Back to Basics: Using Esquisses to Develop Core Design Skills
Ian de Vere

89 Application of Model Based Systems-Engineering in Austrian Vocational Schools
Sinan Ugurlu, Sebastien Bougain, Christian Nigischer and Detlef Gerhard
Chapter 4 – Creativity

102 Creativity in Product Design Education: Understanding the Learning Environment
*Danah Alhussain, Gareth Loudon and Paul Wilgeroth*

108 Learning through Design for Wellbeing
*Nenad Pavel and Bente Skjelbred*

114 The Nature as an Inspiration to encourage users to extend the life of Packaging.
*Linn Victoria Johansen and Arild Berg*

120 Design and Creativity Enhancing Innovative Educational Processes
*Marita Canina, Giuseppe Salvia and Carmen Bruno*

126 Designing Enriched Learning Environments: A Cross-disciplinary Approach to Social Innovation
*Eduardo Francisco Tapia Olmos*

132 Ethical Bicycle Consumption: From Used Frames to New Products
*James Lowley and Tore Gulden*

Chapter 5 – Design Practice

140 Challenges in Teaching Design Thinking Skills to Novice Design Students
*Raghavendra Reddy Gudur*

146 The Elastic Octopus: A Catalogue of Failures for Disrupting Design Education
*Ashley Hall, Yoon Bahk, Laura Gordon and James Wright*

152 Designing with Waste: Comparison of two Practice-based Education Cases
*Isabel Ordonez, Amaltas Khan, Puneet Tandon and Oskar Rexfelt*
Chapter 5 cont. – Design Practice

158 Stop playing it Safe: The Importance of Taking Risks in Design Education
Leslie Arthur and Phillipa Marsh

Chapter 6 – Tools

166 Mind Mapping as a Tool, as a Process, as a Problem/Solution Space
Mithra Zahedi and Lorna Heaton

172 Teaching CAD with a Pedagogical System Ranging from Videos to Individual Tutoring
Claus Pütz

178 Applications for Cloud-based CAD in Design Education and Collaboration
Jeff Barrie

184 Students’ Engagement in the Implementation of Results Obtained in Capstone Design Courses: A Preliminary Model for Detailed Design and go-to Market Activities
Eduardo de Senzi Zancul, Paulo Blikstein, Luiz Fernando Cardoso dos Santos Durão and Alexandre Machado Rocha

Chapter 7 – Research in Design Education

192 Design-research-in-education; Combining the best of Both Worlds
Maaike Mulder-Nijkamp and Wouter Eggink

198 Bridging the Gap between Professional Practice and Academic Research – the Industrial PhD
Julia Schlegel and Martina Keitsch

204 Experiential Values as Promoters for Emerging Views on Sustainable Design Education
Karen Marie Hasling

210 Curriculum in Progress: Developing an Industrial Design Programme for Female Students in Saudi Arabia
Carlos Montana-Hoyos, Elke Stracke, Karin Oerlemans, Eddi Pianca and Stephen Trathen
Chapter 8 – New Design Paradigms

224 Re-examining the Case for Modular Education
Richard Morris, Derek Covill, Mark Milne, Eddy Elton, Steven Smith and Cathy Grundy

228 Product Design Education: A Journey?
Vicki Thomas

234 What on Earth is Responsible Innovation Anyway? (and how to make it happen)
Mark Bailey, Phil Sams, Nick Spencer, Ashleigh Bentham and Becky Bayliss

240 Tinkering as a Method in Academic Teaching
Angelika Mader and Edwin Dertien

246 The use of the “Hackathon” in Design Education: An Opportunistic Exploration
Finlay Page, Sylvester Sweeny, Fraser Bruce and Seaton Baxter

252 Come Together – Right now: Uniting the Department
Amos Scully

258 Re-Engineering Design through Multiple Disciplinary Lenses
Sangeeta Karmokar and Andy M. Connor

264 A new Paradigm in Cross-disciplinary Undergraduate Art and Design Education
Paul Wilgeroth

270 Handling Innovative Transformation Process in Public Environment
Gunnar H. Gundersen and Arild Berg

Chapter 9 – Studio

278 Mapping Design Students’ Aesthetic and Visual Preference
Ann Merete Ohrt and Kirsten Marie Raahauge
Chapter 9 – Studio cont.

284 Student Driven Workshops as Means to Enhance Design Knowledge and Skills
   *Bente Skjelbred*

290 New Developments in Design Education for Additive Manufacturing
   *Stefan Junk and Steffen Schrock*

296 Learning logs in Product Development Education
   *Tero Juuti, Kaisu Rättyä and Timo Lehtonen*

Chapter 10 – Form and Aesthetics in Collaborative Design

304 Selecting Successful Design: A way to explore the best fit between Brands and Target Groups
   *Marleen Offringa and Maaike Mulder-Nijkamp*

310 Helping Young Designers Design for Children: Evaluating toys and Possible Values
   *Inge Duytschaever, Peter Conradie, Ralph Nafzger, Tine Verroken and Ronald Bastiaens*

316 Challenges of Collaborative Product Styling in Design Teams
   *Nis Ovesen*

322 Identifying Aesthetics in Design Products – The 3x3 Model
   *Nanna Vestergaard and Kaare Eriksen*

328 Sense Training as Basis for Aesthetic Experience
   *Bente Dahl Thomsen*

Chapter 11 – Emotions

336 Culture Specific or Global Design in Open Online Design Education
   *Annemiek van Boeijen*

342 Play Probes – As a Productive Space and Source for Information
   *Vibeke Sjovoll and Tore Gulden*
Mediating Emotion Through Objects: The Understanding of Designed Objects as an assistive Tool for Designers in the Early Stages of Design Activity
_Hana Hapiz_

Models for Understanding Contemporary Tensions in Industrial Design Education
_Stephen Trathen and Soumitri Varadarjan_

**Chapter 12 – Form and Image**

Using Moving Image to Facilitate Storytelling as an Ideation Methodology and a Platform to Enhance the Integration of International Student Cohorts within Product Design Education
_Richard Firth and Einar Stoltenberg_

Exploring Interaction Styles through Video
_Gert Pasman and Marco Rozendaal_

Discovering the Meaning of Form by Exploded Sketching
_Elmer van Grondelle and Susie Brand de Groot_

Design Boards as an Alignment Tool for Cross-disciplinarity in Engineering
_Ulla Tanderup Gade_

From Inspiration to Sketches (FITS) Methodology for Students of Product Design
_Efrat Fridenzon Harison_

**Chapter 13 – External Collaboration**

Recommendations for the use of Social Network sites and Mobile Devices in a Collaborative Engineering Design Project
_Ross Brisco, Robert Ian Whitfield and Hilary Grierson_

The Project Design Education Collaborating with City Governments and Communities
_Takao Ito, Masako Shin, Keisuke Miyazaki, Setsuo Iwata and Eiichi Sentoku_

EPDE 2016 XI
Chapter 13 cont. – External Collaboration

406 ‘One Thing Better’ and ‘Redesigning Design Education’- A Collaboration between Industry and Academia
Andrew Forkes and Matt Cooper-Wright

412 A Shift in Focus in Engineering Education: Taking into Account the Expanding Roles of Engineers
Aruna Shekar and Sangeeta Karmokar

417 The Emergence of a New Material Culture: Forging Unprecedented Alliances between Design and Engineering.
Alireza Borhani and Negar Kalantar

Chapter 14 – Assessment

424 Sustainability Assessment in Product Development Projects
Enrique Lacasa, José Luis Santolaya, Carlos Roche and Carlos Velasco

430 Assessment: The Developing and Testing of a Trial Exam in a Cross disciplinary Field Using both Formative and Summative Evaluation
Dorthe Fiona Petersen, Anne Marie Mathiasen and Tifli Lerche

436 Design Student Acculturation through Collaborative Project Assessment
Bryan Howell, Camilla Gwendolyn Stark and Daniela Turner

442 Grading Engineering Design Projects – Let Products give Feedback!
Markus Voß, Hulusi Bozkurt and Thorsten Sauer

448 Follow-groups: Enhancing Learning Potential at Project Exams
Christian Tollestrup

454 Assessment of Professional Competence in Engineering, Product Design – and Higher Education - Speculative Directions for Developing Practice
Chris Dowlen

460 The Challenging Phase of Concept Selection Integrated with the Customers’ Judgment Noticed by the Kano Model
Sergio Rizzuti and Luigi De Napoli
Chapter 15 – Preparing Students for Cross-disciplinarity

468 The Designer and the Scientist: The Road to Inspire Transdisciplinary Synergies  
*Gionata Gatto and John Richard McCardle*

474 Cross-disciplinary Application of System Engineering Approaches in Multi-disciplinary Education Projects  
*Christian Buchholz and Rainer Stark*

480 Approaches to Joint Problem Solving in Multidisciplinary Distributed Teams  
*Lennart Fahnenmüller and Andrew Wodehouse*

487 Triangulation First: Teaching Research in a Multidisciplinary Design and Engineering Environment  
*Koen van Turnhout, Anne Coppens, Sabine Craenmehr and René Bakker*

493 Better Innovation by Design? Can a Collaborative Cross-disciplinary approach assist a Paradigm Shift in Education Practice?  
*Paul McElheron and Malene Pilgaard Harsaae*

499 Beyond Collaboration: Preparing Hybrid Leaders through an Integrated Education  
*Eric Anderson*

505 Craft-design Collaboration between Design Education and the Local Context: A Case Study  
*Liliana Soares, Ermanno Aparo and Helena Santos-Rodrigues*

511 Cross-disciplinarity within Engineering  
*Colin Ledsome*

516 Cross-disciplinary Teaching and Mental Scaling in Complex Design Projects  
*Harald Skulberg*

522 The Potential for a Critical Design Approach to Create Innovation within the Construction Industry through Participatory Design Workshops  
*Sunniva Münster*
Chapter 15 cont. – Preparing Students for Cross-disciplinarity

527 The Future of Driving Experience – An Interdisciplinary Student Project
  Jens Krzywinski, Christian Wölfel and Sebastian Lorenz

533 Design Tools for Beginners: Teaching a Design Approach to Practitioners with Mixed Backgrounds
  Venere Ferraro and Sara Colombo

539 Cross-Disciplinary Pedagogy: From Chinese Fan Dance to Designing a Bandstand
  Clive Hilton

545 Collective Design: Merging Industry and Educational Methods for Multidisciplinary Student Design Projects
  Christian McLening and Paul Warrington

Chapter 16 – Cross-disciplinary

552 A Little goes a Long Way – Opportunities for Multidisciplinary Education
  Håkan Burden and Viktor Hiort af Ornäs

558 Making Students' Frames Explicit
  Louise Møller and Poul Kyvsgaard Hansen

564 The Future of Design: Unframed Problem Solving in Design Education
  Silje Alberthe Kamille Friis and Anne Katrine Götzsche Gelting

570 A Brief Introduction on the Kinematic Scheme Design Teaching Software for Mechanical Systems
  Feng Qian, Huimin Dong, Delun Wang, Yan Cui and Yuan Gao

576 The User-driven Creative Academy
  Louise Møller and Søren Bolvig Poulsen
Chapter 17 – Building Capacity

584 Establishing a Professional Identity via Mentoring in Design Programmes
  René Bennyson, Birgitte K. Hansen and Malene G.S. Blond

590 Crossing Over, Into and Back: Design Disciplines and Identities
  Sue Fairburn, Rachel Heeley and Jon Pengelly

596 Developing the Role of Design: Collaboration of Crime Prevention and Product Design in Education
  Cong Li, Tore Gulden and Feng Zhao

601 The Academic - Enterprise Experiences Framework as a Guide for Design Education
  João Carlos Martins, João Luis Pereira, Marcelo Oliveira and Cristina Coelho

Chapter 18 – Ethics

608 Ethics in Design Education: An Integrated Approach
  Marieke H Sonneveld

614 Ethics in Design Curricula – Teaching Approaches
  Viktor Hiort af Ornäs and Martina Keitsch

620 From Ethics to Politics: If Design is Problem Solving, what then are the problems?
  David Oswald

626 Cross-fertilization of Courses to improve Student Learning
  Bengt Holmqvist and Anders Håkansson
Chapter 19 – Programmes

632 Advanced Manufacturing Industrial Doctorate Centre: Engineering Doctorate Students Collaborating with Industry within an Academic and Industrial Environment
Dorothy Evans

638 An Insight into the use of Problem-Based Learning within Distributed Design Student Projects
Andreea Cristoloveanu, Anastasia Basangova, Khodr Hawchar, Christopher Mason and Ahmed Kovacevic

644 Reflection and Reflexivity about an Introductory Design Course
Marikken Høiseth and Elli Verhulst

650 “It’s Part-Time – But still not as we know it!” – Another Evaluation of a Flexible Learning MEng
Tania Humphries-Smith, Christopher Benjamin and Matthew White

656 Creativity, 3D Printing and Design Education
Julian Lindley

Chapter 20 – Diversity

664 Collaboration in the Zone of Proximal Development
David Morgan and Paul Skaggs

670 Comparing the Usefulness of Rules and No Rules in Engineering Design Brainstorming?
Elies Dekoninck, Jeffrey Barrie and Aaron Linley

676 Collaboration Issues in Ethnically Mixed Student Teams
Chris Ebbert

682 Designing with Stakeholders during Social Innovation Projects: A Mapping and Analysis Tool
Hannah Knowles and Nicholas Spencer
Chapter 21 – Exploration

Design Based on Nature – A Literature Investigation
Franziska Conrad, Vicky Lofthouse and Carolina Escobar-Tello

Moving from Conceptual to Formal Proposal: A study of References as an Analytical Support
Juan Carlos Briede, Isabel Leal, Cristhian Perez and Marcela Cabello

Material Selection in Industrial Design Education – A Literature Review
Charlotte Asbjörn Sörensen, Santosh Jagtap and Anders Warell

Development of a Pedagogical Model for a Distance Learning Course of AutoCAD 2D Software
Paulete Fridman Schwetz, Maria Paula C Malta, Vinicius Borba and Franciele Andretta
Foreword

Design Education: Collaboration and Cross-disciplinarity

The 18th International Conference on Engineering and Product Design Education (E&PDE) was held at the University of Aalborg on the 8th and 9th September 2016.

The conference was hosted by the Department of Architecture, Design and Media Technology at the University of Aalborg, Denmark, 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; alternately taking place in the UK and abroad. Its objective is to facilitate the bringing together of 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 its future direction.

Conference Theme

As the host institution for E&PDE 2016 we chose to focus collaboration and cross-disciplinarity. We developed the theme based on the notion that development of new products has to be integrated with business, services and the digital arena. This influences work and education of designers in two ways: Designers develop products that cannot stand-alone and need to be understood as part of a larger ecosystem, such as smartphones that need software, applications and network to provide the user real value. That emphasises the need to collaborate with multiple providers and stakeholders during a development process. It also means that the complexity of the product development process increases and calls for cross-disciplinarity as a prerequisite and condition for the design team that encompasses more than traditional designers and product developers. Therefore it is important that design educators explore how we prepare students for collaborating with stakeholders, companies and businesses and at the same time investigates the process-, methodological and tool-based challenges and opportunities in a cross-disciplinary setting.
Our aims with the theme Collaboration and Cross-disciplinarity are to:

- Provide a networking platform for a broad variety of participants
- Explore how engineering and product design education contributes to a balanced development of technological possibilities and the needs of people for future society
- Discuss how engineering and product design education can enhance meaningful relations with manufacturers, stakeholders and society in general
- Explore how cross-disciplinary approaches and projects can lead to fruitful insights and valuable results
- Discuss how design education can best be used in the framing and alignment of needs and expectations of users and stakeholders
- Seek innovative solutions that open up new horizons for collaborative practice in design
- Embed the integration of all aspects of engineering and design in our curricula
- Explore the broadening and deepening of the design profession through collaboration and cross-disciplinarity

Conference Programme
24 countries will be represented at the Conference this year. 237 contributions were received which explored the full depth and diversity of the conference theme. Amongst them were 26 student contributions. After reviewing abstracts, full paper submissions and subsequent revisions 103 contributions were selected to be included in the proceedings, 11 of which were poster presentations at the conference. The accepted papers allowed the committee to build a conference programme with a number of major streams including; Preparing Students for Cross-disciplinarity, External Collaboration, Form and Aesthetics in Collaborative Design, Collaborative Environments, Framing and Alignment of Projects in Design Education and New Design Paradigms. As such, the programme covers the issues and meets the needs that arose when the conference theme was defined.

Our keynote speakers Professor Marianne Stokholm from Aalborg University and Morten Bo Jensen from the VIPP Company presented interesting lectures on the subjects “30 years of Design Education” and “Vipp – the story”. Their lectures are included in the Proceedings of the Conference.

Conference Host
The E&PDE 2016 took place on the Create-campus of the University of Aalborg and was hosted by the Department of Architecture, Design and Media Technology and Industrial Design Section. The University is located in the northern part of...
the Jutland in Aalborg, the 4th largest City of Denmark. The Industrial Design Section collaborate with the Department of Mechanical & Production Engineering to provide an educational programme in Industrial Design Engineering, with a strong focus on the integration of Aesthetics and User-oriented aspects with Functionality, Technology, Manufacturing and Business aspects, through extensive collaboration with external companies and organisations.

**Acknowledgements**

This 2016 edition of the E&PDE conference was made possible through the commitment and efforts of many people. I would like to thank Ahmed Kovacevic, Judith Grace, Lyndon Buck, Erik Bohemia and Charlotte Whitehead for their professional leadership and open, warm and welcoming way have lead us through the planning of this conference. It has been a pleasant experience to work with such well-organised conference committee that truly reflects the theme of this conference: collaboration.

I would sincerely like to thank all the members of the international academic review board. They succeeded in the timely review of a vast number of papers, while retaining a true professional and academic stance on the intrinsic value and qualities of all papers submitted.

Naturally, I would like to express my gratitude to my colleagues from the Industrial Design Section, especially Nis Ovesen and Kaare Eriksen, who made it possible to host the conference and over the past year have contributed in a dedicated and professional manner, and in particular our conference secretary Birgith Skipper Holstein.

On behalf of the conference programme committee;

Christian Tollestrup

Head of the Section of Industrial Design
Conference Programme Committee
Kaare Eriksen Aalborg University
Nis Ovesen Aalborg University
Christian Tollestrup Aalborg University
Lyndon Buck Institution of Engineering Designers
Judith Grace Institution of Engineering Designers
Erik Bohemia Design Education Special Interest Group
Ahmed Kovacevic Design Education Special Interest Group

Local Organisation Committee at Aalborg University
Louise Møller Nielsen Aalborg University
Thomas Arvid Jaeger Aalborg University
Marianne Stokholm Aalborg University
Birgith Skipper Holstein Aalborg University
Maria Langendorff Hansen Aalborg University

International Academic Review Board
Knut Einar Aasland NTNU
Alejandro Acuña ITESM Campus Queretaro
Dagfinn Aksnes FluXXWorks Design and Innovations Ltd
Hanan Faisal University of Dammam
Al-Faisal
Fernando Gonçalves Universidade Federal do Rio Grande do Sul
Amaral
Deborah Andrews London South Bank University
Leslie John Arthur Nottingham Trent University
Bjørn Baggerud NTNU
Hanieh Bagherzadeh Tehran Art University
Mark Bailey Northumbria University
Andrew David Beck Coventry University
Mauricio Moreira
E Silva Bernardes Federal University of Rio Grande Do Sul
Guy Bingham Loughborough University
Erik Bohemia Loughborough University
Casper Boks Norwegian University of Science and Technology
Juan Carlos Briede Universidad del Bio-Bio
Westermeyer
Lyndon Buck Buckinghamshire New University
Ana Elena Builes Velez Universidad Pontificia Bolivariana
Shannon Massie Chance Dublin Institute of Technology
Peter Childs Imperial College London
Young Mi Choi Georgia Institute of Technology

EPDE 2016
International Academic Review Board cont.

Sara Colombo  Politecnino di Milano
Christopher John Connor  Northumbria University
Derek Covill  University of Brighton
Alan Roy Crisp  Nottingham Trent University
Steve Culley  University of Bath
Ian de Vere  Brunel University
Harshit Pradeep Desai  MIT Institute of Design
Cyriel Diels  Coventry University
Fabio Dohr  Saarland University
Kevin Edwards  Aston University
Arthur Eger  University of Twente
Viviane Gaspar Ribas El Marghani  UFPR
Kaare Eriksen  Aalborg University
Michael Anthony Clifford Evatt  IED
Bob Eves  Bournemouth University
Philip Farrugia  University of Malta
Ana Filomena Curraro  Polytechnic Institute de Viana do Castelo
Peter Ford  De Montfort University
Andrew Derek Forkes  London South Bank University
Aija Freimane  Art Academy of Latvia
Nigel Patrick Garland  Bournemouth University
Detlef Gerhard  Vienna University of Technology
Michele Germani  Università Politecnica delle Marche
Najaf Gharachourlou  ACECR
Carolina Gill  Ohio State University
Carlos Alberto Gonzalez Almaguer  ITESM Campus Querétaro
Clare Ruth Green  Institut Superieur de Design
Martin Grimheden  KTH
Raghavendra Reddy Gudur  University of Canberra
Melehat Nil Gulari  Robert Gordon University
Tore Gulden  Oslo and Akershus University College
Carsten Haack  Lucerne University
Elizabeth Hauke  Imperial College
Malte Sebastian Hinsch  Chair and Institute for Engineering Design
Viktor Hiort af Ornäs  Chalmers University of Technology
Peter Hogarth  DESIG
Bengt Yngve Holmqvist  Lulea University of Technology
Bryan Howell  Brigham Young University
Bernard James Huggins  WorleyParsons
Tania Humphries-Smith  Bournemouth University
International Academic Review Board cont.

Alexandros Nikitas University of Huddersfield
Colm O’Kane Dublin Institute of Technology
Hesamedin Ostad-Ahmad-Ghorabi Magna Steyr Engineering Deutschland
Nis Ovesen Aalborg University
Gert Pasman Delft University of Technology
Neven Pavkovic Faculty of Mechanical Engineering and Naval Architecture
Jon Pengelly Robert Gordon University
Miroslava Nadkova Petrova University of Forestry
Viviana Polo Universidad de San Buenaventura
Luis Pons Puiggros Technical University of Catalonia
Patrick Pradel The University of Nottingham Ningbo China
Alun John Price Edith Cowan University
Antti Juhani Pulkkinen Tampere University of Technology
Mohammad Rajabalinejad University of Twente
Lucia Rampino Politecnico di Milano
Kaisu Rättyä University of Eastern Finland
Mohammad Razzaghi University of Art
Iain Reid The Glasgow School of Art
Christoph Richter Christian-Albrechts-Universität zu Kiel
Paul Rodgers Northumbria University
Peer Mohideen Sathikh Nanyang Technological University
Thorsten Sauer Baden Württemberg Cooperative State University
Paulete Fridman Schwetz Federal University of Rio Grand do Sul
Amos Scully Rochester Institute of Technology
Colleen Seifert University of Michigan
Cliff Shin University of Illinois at Urbana Champaign
Dosun Shin Arizona State University
Jóhannes B Sigurjónsson Norwegian University of Science and Technology
Aditi Singh School of Planning and Architecture
Liliana Soares Polytechnic Institute of Viana do Castelo
John Spruce LJMU
Mikiko Sode Tanaka Kanazawa Institute of Technology
Stela Borisova Tasheva Bulgarian Academy of Sciences
Miguel Terroso Politechnic Institute of Cavado and Ave
Tamer A Thabet University Malaysia Sabah
Bente Dahl Thomsen Aalborg University
Christian Tollestrup Aalborg University
Stephen Trathen University of Canberra

XXVI EPDE 2016
<table>
<thead>
<tr>
<th>Name</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Svetlana Usenyuk</td>
<td>Aalto University</td>
</tr>
<tr>
<td>Julio Carlos de Souza</td>
<td>Federal University of Rio Grande do Sul</td>
</tr>
<tr>
<td>van der Linden</td>
<td></td>
</tr>
<tr>
<td>Elli Verhulst</td>
<td>Norwegian University of Science and Technology</td>
</tr>
<tr>
<td>Michael Vielhaber</td>
<td>Saarland University</td>
</tr>
<tr>
<td>Markus Voß</td>
<td>Baden Wurttemberg Cooperative State University</td>
</tr>
<tr>
<td>Pontus Wallgren</td>
<td>Chalmers University of Technology</td>
</tr>
<tr>
<td>Matthew Alan Watkins</td>
<td>Nottingham Trent University</td>
</tr>
<tr>
<td>Robert Watty</td>
<td>University of Applied Sciences</td>
</tr>
<tr>
<td>Paul Wilgeroth</td>
<td>Cardiff Metropolitan University</td>
</tr>
<tr>
<td>Andrew Wodehouse</td>
<td>University of Strathclyde</td>
</tr>
<tr>
<td>Fabiane Wolff</td>
<td>UniRitter - Laureate International Universities</td>
</tr>
<tr>
<td>Andree Woodcock</td>
<td>Coventry University</td>
</tr>
<tr>
<td>Mithra Zahedi</td>
<td>University of Montreal</td>
</tr>
<tr>
<td>Shahriman Zainal Abidin</td>
<td>Universiti Teknologi MARA</td>
</tr>
<tr>
<td>Roman Zavbi</td>
<td>University of Ljubljana</td>
</tr>
<tr>
<td>Michael Vielhaber</td>
<td>Saarland University</td>
</tr>
<tr>
<td>Markus Voß</td>
<td>Baden Wurttemberg Cooperative State University</td>
</tr>
<tr>
<td>Pontus Wallgren</td>
<td>Chalmers University of Technology</td>
</tr>
<tr>
<td>Matthew Alan Watkins</td>
<td>Nottingham Trent University</td>
</tr>
<tr>
<td>Robert Watty</td>
<td>University of Applied Sciences</td>
</tr>
<tr>
<td>Paul Wilgeroth</td>
<td>Cardiff Metropolitan University</td>
</tr>
<tr>
<td>Andrew Wodehouse</td>
<td>University of Strathclyde</td>
</tr>
<tr>
<td>Fabiane Wolff</td>
<td>UniRitter - Laureate International Universities</td>
</tr>
<tr>
<td>Andree Woodcock</td>
<td>Coventry University</td>
</tr>
<tr>
<td>Mithra Zahedi</td>
<td>University of Montreal</td>
</tr>
<tr>
<td>Shahriman Zainal Abidin</td>
<td>Universiti Teknologi MARA</td>
</tr>
<tr>
<td>Roman Zavbi</td>
<td>University of Ljubljana</td>
</tr>
</tbody>
</table>
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 Konstruction (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. It has also expanded with members from forty countries and with further 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.
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 advice on professional codes of conduct, a job board, regular newsletters to keep members up to date with relevant developments and events and a helpful legal advice service. We host events which offer our members the chance to network with other professionals and we publish a bi monthly journal – Engineering Designer.

Our Royal Charter allows the IED to award a Chartership for Product Designers (CTPD) to suitably qualified and experienced members. CTPD is on a par with other Chartered registrations and provides professional recognition and standing to those working in Product Design. This year we also launch ‘Registered Product Designer’ (RProdDes), a grade of professional registration for designers who are not ready to register at Chartered level. To find out more about CTPD and RProdDes visit our website: www.ied.org.uk

The IED is a licensed body of the Engineering Council, this licence enables us to assess candidates wishing to join the EC's Register of Professional Engineers and Technicians. 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).

A major part of our commitment to professionalism in design is the accreditation of academic and training courses, for registration as either professional product design or professional engineering design. A list of the currently accredited courses and information on how to get your course accredited is also available on our website.

The IED welcomes members from any organisation that has a design function and employs engineering and/or product designers and we have many academic teaching staff in membership. The first step to becoming a member is to complete the simple on-line form available at www.ied.org.uk
Dogmas in Danish Design Educations
Professor Marianne Stokholm,
Aalborg University & Stokholm Design

Summary of Keynote
It has been documented that the Danes are the happiest people in the world. Danes live in a country where everything from the bacon pig to homecare and teaspoons are designed. The relation between the two facts has so far to my knowledge not been investigated. Never the less Danish Design as a brand represent a specific set of values and qualities which might be based on some tacit dogmas also ruling Danish design education.

The reputation of design from Denmark was established as Danish Design in the fifties trough the exposition and export of furniture and tableware and further consolidated by brands like Lego, Vola and Bang & Olufson. Based on this you would assume that professional designers have been widely used for decades and that design education has a long history in Denmark. Nothing could be more wrong.

When Jens Bang from Bang & Olufsen gave a presentation of B&O design in Japan in the nineties, he was asked how many designer B&O employed and nobody believed him, when he told them the number was two. Actually one of the two was an engineer -himself. The head of the design department at Lego in the same period was a former tie seller and the world famous taps from Vola was designed by an architect.

You might then assume that design education was not needed. Until 1983 when industrial design was introduced as a pilot scheme at the Aarhus School of Architecture, AAA, there were no industrial design education in Denmark only artistic design educations at Arts & Craft schools.

Then in 1997 Aalborg University came up with a new initiative that shocked the design establishment. Aalborg is considered the outskirts of Denmark and the university was established in 1974 as technical university, with a specific pedagogical dogma named Problem Based Learning, PBL an entrepreneurial culture including collaboration with industry and establishment of new inter-disciplinary education programs.

Based on the dogma Integrated Design the university wanted to set up an Architecture & Design education program that would integrate engineering and architecture/design and create a competence profile which could bridge the gap between traditional engineers and architects/designers and thereby both meet the need of industry and the problems with unemployment rate within the traditional architect and design professions.
With the aim of creating competences in design process navigation and co-creation to prepare candidates for a dynamic, complex and interactive world the dogma for this industrial design-engineering education included project work in teams documented in two reports; a product report presenting the proposed design solution and a process report containing description and reflections on the methods and process.

Having been an active participant in both design practice, -research and -education for decades I will try to describe and analyse the development within Danish design education from the seventies and until today in an attempt to unravel the dogmas of Danish Design education. What are the dogmas concerned with? How do they influence design education? How do they affect design solutions and design competences?
Vipp – The History
Morten Bo Jensen,
Chief Designer at Vipp

Summary of Keynote
Vipp is a Danish industrial design company known globally for its waste bin, which was first produced in 1939 and later accepted into the permanent design collection at MoMA in New York.

Today, Vipp has grown into a wide range of products including kitchen modules, lighting, and a prefab home – all infused with a design DNA rooted in timeless functionality.

Vipp Chief Designer, Morten Bo Jensen, has been a part of Vipp for 10 years, and is involved in processes across the company, from product design and brand development to general business.

Morten will take you through the history of Vipp and give you a peek behind the scenes of a design philosophy that is highly influenced by the field of design engineering.