DeSForM 2023 Boundless

Aesthetics, Human Experience and Intelligence for the New Normal

Dr. ir. Miguel Bruns, Prof. Lin-Lin Chen, Dr. Sara Colombo, Dr. Jun Hu, Prof. Steven Kyffin, Yihyun Lim, Dr. Ozcan Vieira, E. Jeroen Raijmakers, Prof. Lucia Rampino, Dr. Edgar Rodriguez Ramirez, Prof. Dr. Dagmar Johanna Steffen, Prof. Calvin Wong

Design and Semantics of Form and Movement

Organizer:



Laboratory for Artificial Intelligence in Design 人工智能設計研究所









Content

- 05 DesForM 2023 Program Committee
- 06 Programme DeSForM 2023

Keynote

09 Everything Everywhere All at Once Dr. Delman Lee

- 10 Navigating Uncharted Territory with Meaning-driven and Design-centred Innovation *Prof. Erin Cho*
- 11 Acceleration with Al for Fashion *Prof. Calvin Wong*

12 Panel Discussion

Al and Design: Creative Innovation and Challenges

Workshops

13 Human-Centred Al Design Methods to Understand "Textiles Hand"

Chipp Jansen, Lissy Hatfield, Zhengtao Ma, Boyuan Tuo, Elif Ozden Yenigun, Sharon Baurley, Kun-Pyo

Lee and Stephen Wang

Wearables for Personalised Posture

Tong Lo, Narges Pourshahrokhi, Tom Stables, Rama Gheerawo and Ali Asadipour

14 Topics Introduction

Paper Session: Form, Interactivity and the Human Experience

- A-Vibe: Exploring the Impact of Animal-form Avatars on Students' Connectedness and Social Presence through Delivering Honest Signals in Live Online Classes Tianqin Lu and Jun Hu
- An exploration on UX Automotive in the 5G era new interaction processes through gesture control and haptic feedback

 Venanzio Arquilla, Fausto Brevi, Federica Caruso, Flora Gaetani and Peng Lu
- 40 Comfort Between the Top and Bottom: A Cost-Effective Ergonomic Monitor Stand with Automatic Height Adjustment Based on Machine Learning Yanze Wang and Jianfei Ma
- 50 Giving Form to the Invisible: Can we make in-home network data traffic tangible to users? Sabine Junginger, Beat Tödli and Tom Ulmer
- 62 K-means based group clustering approach for Group recommender System in a metaverse environment

M.W. Geda, Yuk Ming Tang, Sze Chit Leong, C.K.M. Lee and Chung Hin Lai

- 69 Interstitial Diagramming: Mapping Temporal Experience Stephen Neely and Michael Arnold Mages
- 77 Big data analytics for marketing strategy

 Jingying Liang, Yuhan Jiao, Sui Ying Chung and C.K.M. Lee

Paper Session: Fashion: Process, Visualizations, Artifacts and Beyond

- 88 Deep Fabric Prints Generation for Fashion
 Fangjian Liao, Xingxing Zou and Waikeung Wong
- 99 The Effect of Heel Base Design on Plantar Pressure and Wear Comfort of Healthy Females Luk Sin-Hang, Kit Lun Yick and Li-Ying Zhang
- 106 M-VTON: Multi-layer Virtual Try-on System *Kaicheng Pang, Xingxing Zou, Fangjian Liao and Waikeung Wong*
- 117 Fashion Sketch to Real Image System: A Designer Aids based on Generative Adversarial Network Shumin Zhu, Xingxing Zou and Wai Keung Wong
- 128 Unorthodox Interventions Fashion Garment Creation through Modification of FFF 3D Printing Processes
 Lionel Zhen Jie Wong and Hoi Shan Jamela Law
- 138 Creating an environment to fight the fashion system: Fashion Tech Farm Marina Toeters, Loe Feijs, Troy Nachtigall and Beam Contrechoc

Paper Session: Innovation in Product and Service Design

- Disappearing Stitch: Exploring e-textiles design for disassembly Amy Chen
- 160 A Priori: Design Knowledge in Al Ryan Bruggeman, Estefania Ciliotta Chehade, Yi Han and Paolo Ciuccarelli
- 170 Towards a Data-Informed-Design (D-I-D) Framework for Autonomous Vehicle Design

 Cyriel Diels, Kostas Stylidis, Farhana Safa, Cynthia Charwick, Herin Haramoto, Yichen Shu, Jiayu Wu

 and Dale Harrow
- 180 Therapy, Play and Movement Awareness with Intraoral Interfaces Luke Franzke, Mona Neubauer and Nora Gailer

Paper Session: Wearables and Alternative Skins

- 193 Doctor Kiwi A persuasive game concept to treat skin sores among children in New Zealand Edgar Rodríguez Ramírez, Mailin Lemke and Gillian McCarthy
- "I had pee sneezes" Factors influencing the health-seeking process and use of wearable devices among women with pelvic floor disorder

 Edgar Rodríguez Ramírez, Mailin Lemke and Gillian McCarthy
- FeedBreath: Designing Complementary Treatment Wearable Biofeedback System for Teenagers with anxiety disorder

Paolo Perego, Livia Teresa S. Stevenin and Qi Wang

Short papers & Interactive Demo

- 223 Mixed Reality (MR)-assisted Spatial Logistics Facility Layout Design Wai Wai Chong, Ka Man Lee, Yung Po Tsang and Yim Shan Au
- 234 Effect of Body Shapes, Garment Size and Silhouette on the Visual Effect of Body Image Xing Su, Jiayin Li, Pik Yin Mok and Jintu Fan
- 240 Al Ethical Issues (AIEI) Cards: Supporting Responsible AI-Enabled Solutions Design in Healthcare Fan Li and Yuan Lu
- New Design Concepts to Enhance Communication and Interaction among Unsociable Young People in Co-living Areas

 Hi Ying Lon and Yi-Teng Shih
- The Connection of Educational Toy and Technology

 Lok To Christy Chen, Sin Ting Charis Chiu and Yi-Teng Shih
- 257 Slow Tourism Service System for the Post-Pandemic Decade Ka Po Tsui and Yi-Teng Shih
- Designing a product that imitates and substitutes a guide companion for the visually impaired *Wai Dik Au, Yi-Teng Shih*
- 271 An Interactive Neural Network-Based System for Confined Stylization of Product Design Tang Man Kit

DeSForM 2023 Program Committee

General Conference Chair

Prof. Calvin Wong

AiDLab

The Hong Kong Polytechnic University

DeSForM Steering Committee

Dr. ir. Miguel Bruns

Eindhoven University of Technology (TU/e),

The Netherlands

Prof. Lin-Lin Chen

Eindhoven University of Technology, The

Netherlands

National Taiwan University of Science and

Technology, Taiwan

Dr. Sara Colombo

Eindhoven University of Technology (TU/e),

The Netherlands

Dr. Jun Hu

Eindhoven University of Technology (TU/e),

The Netherlands

Jiangnan University, China

Prof. Steven Kyffin

Northumbria University, United Kingdom

Yihyun Lim

Massachusetts Institute of Technology,

The United States

Dr. Ozcan Vieira, E.

TU Delft Faculty of Industrial Design Engineering,

The Netherlands

Jeroen Raijmakers

Royal Philips, The Netherlands

Technical University Delft, The Netherlands

Prof. Lucia Rampino

Politecnico di Milano, Italy

Dr. Edgar Rodriguez Ramirez

Victoria University of Wellington, New Zealand

Prof. Dr. Dagmar Johanna Steffen

Lucerne University of Applied Sciences and Arts,

Switzerland

Prof. Calvin Wong

AiDLab

The Hong Kong Polytechnic University

Program Chair

Prof. Jeanne Tan

AiDLab

The Hong Kong Polytechnic University

DeSForM 2023 Committee Members

Prof. Paola Bertola

Politecnico di Milano, Italy

Prof. Anne Boddington

Kingston University

Zowie Broach

Royal College of Art

Prof. Erin Cho

The Hong Kong Polytechnic University

Dr. Carman Lee

The Hong Kong Polytechnic University

Dr. Oscar Tomico Plasencia

Barcelona School of Design and Engineering

(ELISAVA)

Eindhoven University of Technology

Anne Toomey

Royal College of Art

Prof. Kit-Lun Yick

The Hong Kong Polytechnic University

DeSForM 2023 Programme

	Conference Programme (5 July)
0900 – 0930	Conference Registration
0930 – 0945	Opening
	Prof. Calvin Wong , CEO & Centre Director of AiDlab., Cheng Yik Hung Professor in FAshion, PolyU
0945 – 1015	Keynote Presentation: Everything Everywhere All at Once
	Dr. Delman Lee, Vice Chair at TAL Apparel Limited
1015 – 1045	Keynote Presentation: Navigating Uncharted Territory with Meaning-driven and Design-centred Innovation Prof. Erin Cho, Dean and Professor, School of Fashion and Textiles, PolyU
1045 – 1105	Panel Discussion:
	Al and Design: Creative Innovation and Challenges
	Moderator: Prof. Jeanne Tan, COO and Assistant Centre Director, AiDLab, Professor, School of Fashion and
	Textiles Panelists: Dr. Delman Lee, Prof. Erin Cho, Prof. Calvin Wong
1105 – 1120	Refreshment Break
	Paper Session: Form, Interactivity and the Human Experience Chair: Jun Ho
1120 – 1240	A-Vibe: Exploring the Impact of Animal-form Avatars on Students' Connectedness and Social Presence through
	Delivering Honest Signals in Live Online Classes
	Tianqin Lu and Jun Hu
	An exploration on UX Automotive in the 5G era new interaction processes through gesture control and haptic
	feedback
	Venanzio Arquilla, Fausto Brevi, Federica Caruso, Flora Gaetani and Peng Lu
	Comfort Between the Top and Bottom: A Cost-Effective Ergonomic Monitor Stand with Automatic Height Adjustment Based on Machine Learning Yanze Wang and Jianfei Ma
	Giving Form to the Invisible: Can we make in-home network data traffic tangible to users? Sabine Junginger, Beat Tödli and Tom Ulmer
1240 – 1400	Lunch
	Chair: Dr. ir. Miguel
1400 – 1500	K-means based group clustering approach for Group recommender System in a metaverse environment
	M.W. Geda, Yuk Ming Tang, Sze Chit Leong, C.K.M. Lee and Chung Hin Lai
	Interstitial Diagramming: Mapping Temporal Experience Stephen Neely and Michael Arnold Mages
	Big data analytics for marketing strategy Jingying Liang, Yuhan Jiao, Sui Ying Chung and C.K.M. Lee
	Paper Session: Innovation in Product and Service Design
	Chiar: Amy Chen
1500 – 1540	Disappearing Stitch: Exploring e-textiles design for disassembly Amy Chen
	A Priori: Design Knowledge in Al Ryan Bruggeman, Estefania Ciliotta Chehade, Yi Han and Paolo Ciuccarelli
1540 – 1600	Refreshment Break
1600 – 1730	Workshops: Human-Centred Al Design Methods to Understand "Textiles Hand" Chipp Jansen, Lissy Hatfield, Zhengtao Ma, Boyuan Tuo, Elif Ozden Yenigun, Sharon Baurley, Kun-Pyo Lee and Stephen Wang

Conference Programme (6 July)

0900 – 0930 Conference Registration

0930 – 1000 Keynote Presentation: Acceleration with AI for Fashion

Prof. Calvin Wong, CEO & Centre Director of AiDlab., Cheng Yik Hung Professor, PolyU

Paper Session: Innovation in Product and Service Design

Chair: Cyriel Diels

1000 – 1020 Towards a Data-Informed-Design (D-I-D) Framework for Autonomous Vehicle Design

Cyriel Diels, Kostas Stylidis, Farhana Safa, Cynthia Charwick, Herin Haramoto, Yichen Shu, Jiayu Wu and Dale

Harrow

Paper Session: Fashion: Process, Visualizations, Artifacts and Beyond

1020 – 1040 Deep Fabric Prints Generation for Fashion

Fangjian Liao, Xingxing Zou and Waikeung Wong

1040 – 1100 Refreshment Break

Chair: Dr. Edgar Rodriguez

1100 – 1140 The Effect of Heel Base Design on Plantar Pressure and Wear Comfort of Healthy Females

Luk Sin-Hang, Kit Lun Yick and Li-Ying Zhang

M-VTON: Multi-layer Virtual Try-on System

Kaicheng Pang, Xingxing Zou, Fangjian Liao and Waikeung Wong

1140 – 1300 Exhibition & Tour

Atrium Link, Hong Kong Science Park

1300 - 1430 Lunch

1430 – 1530 Short papers & Interactive Demo

Mixed Reality (MR)-assisted Spatial Logistics Facility Layout Design Wai Wai Chong, Ka Man Lee, Yung Po Tsang and Yim Shan Au

 ${\it Effect of Body Shapes, Garment Size and Silhouette on the Visual Effect of Body Image}$

Xing Su, Jiayin Li, Pik Yin Mok and Jintu Fan

Al Ethical Issues (AIEI) Cards: Supporting Responsible Al-Enabled Solutions Design in Healthcare Fan Li and Yuan Lu

New Design Concepts to Enhance Communication and Interaction among Unsociable Young People in Co-living

Hi Ying Lon and Yi-Teng Shih

The Connection of Educational Toy and Technology

Lok To Christy Chen, Sin Ting Charis Chiu and Yi-Teng Shih

Slow Tourism Service System for the Post-Pandemic Decade

Ka Po Tsui and Yi-Teng Shih

Designing a product that imitates and substitutes a guide companion for the visually impaired Wai Dik Au, Yi-Teng Shih

An Interactive Neural Network-Based System for Confined Stylization of Product Design *Tang Man Kit*

1530 – 1545 Refreshment Break

1545 – 1715 Workshops: Wearables for Personalised Posture

Tong Lo, Narges Pourshahrokhi, Tom Stables, Rama Gheerawo and Ali Asadipour

1900 – 2200 Conference Dinner

Conference Programme (7 July)

0900 – 0930 Conference Registration

Paper Session: Fashion: Process, Visualizations, Artifacts and Beyond

Chair: Yihyun Lim

0930 – 1030 Fashion Sketch to Real Image System: A Designer Aids based on Generative Adversarial Network

Shumin Zhu, Xingxing Zou and Wai Keung Wong

Unorthodox Interventions – Fashion Garment Creation through Modification of FFF 3D Printing Processes Lionel Zhen Jie Wong and Hoi Shan Jamela Law

Creating an environment to fight the fashion system: Fashion Tech Farm Marina Toeters, Loe Feijs, Troy Nachtigall and Beam Contrechoc

Paper Session: Wearables and Alternative Skins

Chair: Prof. Dr. Dagmar Johanna Steffen

1030 – 1130 Doctor Kiwi - A persuasive game concept to treat skin sores among children in New Zealand

Edgar Rodríguez Ramírez, Mailin Lemke and Gillian McCarthy

"I had pee sneezes" Factors influencing the health-seeking process and use of wearable devices among women with pelvic floor disorder

Edgar Rodríguez Ramírez, Mailin Lemke and Gillian McCarthy

FeedBreath: Designing Complementary Treatment Wearable Biofeedback System for Teenagers with anxiety disorder

Paolo Perego, Livia Teresa S. Stevenin and Qi Wang

1130 – 1140 Closing Ceremony

1140 – 1240 AiDLab Tour & Networking

AiDLab, 16/F, 19W, Hong Kong

DeSForM 2023 Boundless

Aesthetics, Human Experience and Intelligence for the New Normal

ISBN: 978-962-367-870-4 / ISSN: 2706-6150 All rights reserved.