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HCI International 2020 - Late Breaking Papers

User Experience Design and Case Studies

22nd HCI International Conference, HCII 2020
Copenhagen, Denmark, July 19–24, 2020
Proceedings

Editors

Constantine Stephanidis
University of Crete and Foundation
for Research and Technology –
Hellas (FORTH)
Heraklion, Crete, Greece

Elizabeth Rosenzweig
World Usability Day and Bentley User
Experience Center
Newton Center, MA, USA

Abbas Moallem
San Jose State University
San Jose, CA, USA

Aaron Marcus
Aaron Marcus and Associates
Berkeley, CA, USA

Pei-Luen Patrick Rau
Tsinghua University
Beijing, China

Matthias Rauterberg
Eindhoven University of Technology
Eindhoven, Noord-Brabant, The Netherlands

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Foreword

The 22nd International Conference on Human-Computer Interaction, HCI International 2020 (HCII 2020), was planned to be held at the AC Bella Sky Hotel and Bella Center, Copenhagen, Denmark, during July 19–24, 2020. Due to the COVID-19 pandemic and the resolution of the Danish government not to allow events larger than 500 people to be hosted until September 1, 2020, HCII 2020 had to be held virtually. It incorporated the 21 thematic areas and affiliated conferences listed on the following page.

A total of 6,326 individuals from academia, research institutes, industry, and governmental agencies from 97 countries submitted contributions, and 1,439 papers and 238 posters were included in the volumes of the proceedings published before the conference. Additionally, 333 papers and 144 posters are included in the volumes of the proceedings published after the conference, as “Late Breaking Work” (papers and posters). These contributions address the latest research and development efforts in the field and highlight the human aspects of design and use of computing systems.

The volumes comprising the full set of the HCII 2020 conference proceedings are listed in the following pages and together they broadly cover the entire field of human-computer interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas.

I would like to thank the Program Board Chairs and the members of the Program Boards of all Thematic Areas and Affiliated Conferences for their valuable contributions towards the highest scientific quality and the overall success of the HCI International 2020 conference.

This conference would not have been possible without the continuous and unwavering support and advice of the founder, conference general chair emeritus and conference scientific advisor, Prof. Gavriel Salvendy. For his outstanding efforts, I would like to express my appreciation to the communications chair and editor of HCI International News, Dr. Abbas Moallem.

July 2020

Constantine Stephanidis

HCI International 2020 Thematic Areas and Affiliated Conferences

Thematic Areas:

- HCI 2020: Human-Computer Interaction
- HIMI 2020: Human Interface and the Management of Information

Affiliated Conferences:

- EPCE: 17th International Conference on Engineering Psychology and Cognitive Ergonomics
- UAHCI: 14th International Conference on Universal Access in Human-Computer Interaction
- VAMR: 12th International Conference on Virtual, Augmented and Mixed Reality
- CCD: 12th International Conference on Cross-Cultural Design
- SCSM: 12th International Conference on Social Computing and Social Media
- AC: 14th International Conference on Augmented Cognition
- DHM: 11th International Conference on Digital Human Modeling & Applications in Health, Safety, Ergonomics & Risk Management
- DUXU: 9th International Conference on Design, User Experience and Usability
- DAPI: 8th International Conference on Distributed, Ambient and Pervasive Interactions
- HCIBGO: 7th International Conference on HCI in Business, Government and Organizations
- LCT: 7th International Conference on Learning and Collaboration Technologies
- ITAP: 6th International Conference on Human Aspects of IT for the Aged Population
- HCI-CPT: Second International Conference on HCI for Cybersecurity, Privacy and Trust
- HCI-Games: Second International Conference on HCI in Games
- MobiTAS: Second International Conference on HCI in Mobility, Transport and Automotive Systems
- AIS: Second International Conference on Adaptive Instructional Systems
- C&C: 8th International Conference on Culture and Computing
- MOBILE: First International Conference on Design, Operation and Evaluation of Mobile Communications
- AI-HCI: First International Conference on Artificial Intelligence in HCI

Conference Proceedings – Full List of Volumes

1. LNCS 12181, Human-Computer Interaction: Design and User Experience (Part I), edited by Masaaki Kurosu
2. LNCS 12182, Human-Computer Interaction: Multimodal and Natural Interaction (Part II), edited by Masaaki Kurosu
3. LNCS 12183, Human-Computer Interaction: Human Values and Quality of Life (Part III), edited by Masaaki Kurosu
4. LNCS 12184, Human Interface and the Management of Information: Designing Information (Part I), edited by Sakae Yamamoto and Hirohiko Mori
5. LNCS 12185, Human Interface and the Management of Information: Interacting with Information (Part II), edited by Sakae Yamamoto and Hirohiko Mori
6. LNAI 12186, Engineering Psychology and Cognitive Ergonomics: Mental Workload, Human Physiology, and Human Energy (Part I), edited by Don Harris and Wen-Chin Li
7. LNAI 12187, Engineering Psychology and Cognitive Ergonomics: Cognition and Design (Part II), edited by Don Harris and Wen-Chin Li
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9. LNCS 12189, Universal Access in Human-Computer Interaction: Applications and Practice (Part II), edited by Margherita Antona and Constantine Stephanidis
10. LNCS 12190, Virtual, Augmented and Mixed Reality: Design and Interaction (Part I), edited by Jessie Y.C. Chen and Gino Fragomeni
11. LNCS 12191, Virtual, Augmented and Mixed Reality: Industrial and Everyday Life Applications (Part II), edited by Jessie Y.C. Chen and Gino Fragomeni
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18. LNCS 12198, Digital Human Modeling & Applications in Health, Safety, Ergonomics & Risk Management: Posture, Motion and Health (Part I), edited by Vincent G. Duffy
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21. LNCS 12201, Design, User Experience, and Usability: Design for Contemporary Interactive Environments (Part II), edited by Aaron Marcus and Elizabeth Rosenzweig
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23. LNCS 12203, Distributed, Ambient and Pervasive Interactions, edited by Norbert Streitz and Shin'ichi Konomi
24. LNCS 12204, HCI in Business, Government and Organizations, edited by Fiona Fui-Hoon Nah and Keng Siau
25. LNCS 12205, Learning and Collaboration Technologies: Designing, Developing and Deploying Learning Experiences (Part I), edited by Panayiotis Zaphiris and Andri Ioannou
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37. LNCS 12217, Artificial Intelligence in HCI, edited by Helmut Degen and Lauren Reinerman-Jones
38. CCIS 1224, HCI International 2020 Posters (Part I), edited by Constantine Stephanidis and Margherita Antona
39. CCIS 1225, HCI International 2020 Posters (Part II), edited by Constantine Stephanidis and Margherita Antona

40. CCIS 1226, HCI International 2020 Posters (Part III), edited by Constantine Stephanidis and Margherita Antona
41. LNCS 12423, HCI International 2020 – Late Breaking Papers: User Experience Design and Case Studies, edited by Constantine Stephanidis, Aaron Marcus, Elizabeth Rosenzweig, P.L. Patrick Rau, Abbas Moallem, and Matthias Rauterberg
42. LNCS 12424, HCI International 2020 – Late Breaking Papers: Multimodality and Intelligence, edited by Constantine Stephanidis, Masaaki Kurosu, Helmut Degen, and Lauren Reinerman-Jones
43. LNCS 12425, HCI International 2020 – Late Breaking Papers: Cognition, Learning and Games, edited by Constantine Stephanidis, Don Harris, Wen-Chin Li, Dylan D. Schmorrow, Cali M. Fidopiastis, Panayiotis Zaphiris, Andri Ioannou, Xiaowen Fang, Robert Sottilare, and Jessica Schwarz
44. LNCS 12426, HCI International 2020 – Late Breaking Papers: Universal Access and Inclusive Design, edited by Constantine Stephanidis, Margherita Antona, Qin Gao, and Jia Zhou
45. LNCS 12427, HCI International 2020 – Late Breaking Papers: Interaction, Knowledge and Social Media, edited by Constantine Stephanidis, Gavriel Salvendy, June Way, Sakae Yamamoto, Hirohiko Mori, Gabriele Meiselwitz, Fiona Fui-Hoon Nah, and Keng Siau
46. LNCS 12428, HCI International 2020 – Late Breaking Papers: Virtual and Augmented Reality, edited by Constantine Stephanidis, Jessie Y.C. Chen, and Gino Fragomeni
47. LNCS 12429, HCI International 2020 – Late Breaking Papers: Digital Human Modeling and Ergonomics, Mobility and Intelligent Environments, edited by Constantine Stephanidis, Vincent G. Duffy, Norbert Streitz, Shin'ichi Konomi, and Heidi Krömker
48. CCIS 1293, HCI International 2020 – Late Breaking Posters (Part I), edited by Constantine Stephanidis, Margherita Antona, and Stavroula Ntoa
49. CCIS 1294, HCI International 2020 – Late Breaking Posters (Part II), edited by Constantine Stephanidis, Margherita Antona, and Stavroula Ntoa

<http://2020.hci.international/proceedings>



HCI International 2020 (HCII 2020)

The full list with the Program Board Chairs and the members of the Program Boards of all thematic areas and affiliated conferences is available online at:

<http://www.hci.international/board-members-2020.php>



HCI International 2021

The 23rd International Conference on Human-Computer Interaction, HCI International 2021 (HCII 2021), will be held jointly with the affiliated conferences in Washington DC, USA, at the Washington Hilton Hotel, July 24–29, 2021. It will cover a broad spectrum of themes related to human-computer interaction (HCI), including theoretical issues, methods, tools, processes, and case studies in HCI design, as well as novel interaction techniques, interfaces, and applications. The proceedings will be published by Springer. More information will be available on the conference website: <http://2021.hci.international/>

General Chair

Prof. Constantine Stephanidis

University of Crete and ICS-FORTH

Heraklion, Crete, Greece

Email: general_chair@hci2021.org

<http://2021.hci.international/>



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