Human Computer Interaction and Artificial Intelligence

In a world in which ever more information systems drawing upon machine learning techniques and optimization algorithms become part of everyday life, machine learning contributes to interaction design and execution, often by focusing on specific user behaviors; the aim is to create new systems based on Artificial Intelligence: the AI-s. With respect to users that already have a clear understanding of the functionality and the outputs of traditional systems, a user, interacting with an AI-s, could be different expectations of what the system actually offers. AI-s usually have dynamic behaviors, which often confound users until users prefer to substitute the system or in some cases to refuse them. AI-s often has a tendency to sudden changes of attitude or behavior: they vary in capabilities and interaction paradigms, impacting user engagement and usability. It is not difficult finding examples of AI-s failures that damage users, ranging from "soft" (e.g., autocompletion errors) to "hard" situations in which users cannot effectively understand or control an AI-s (e.g., collaboration with semi-autonomous cars).

Successful AI-s strengthen the tie to Human Computer Interaction (HCI) by creating a demand for new and better interaction. Usable AI-s might be realized by teams composed of HCI researchers employing AI techniques as well as AI researchers applying HCI methodologies, and not only!

Despite the acknowledgment of equal importance of the usage of AI techniques and HCI methodologies, their balance in the realization of AI-s is more ideal than practice, since traditionally both AI techniques and HCI methodologies have been addressed by two distinct communities – Human-Computer Interaction and Artificial intelligence – using different processes, methods, and tools.

Also, in recent years we have witnessed the emergence of new research topics in the borders between HCI and AI, such as Human-Based Computation (HBC) and Augmented Intelligence, i.e., problems in which humans and machines work together towards solving a common goal, either where the machine is assisted by humans (HBC) or the humans are assisted by the machines (Augmented Intelligence).

Also, the intersection of HCI and AI is an emerging field of research, devoted mostly to Intelligent User Interfaces, i.e., interfaces developed using the approaches from HCI and the tools from AI, most notably Machine Learning and Natural Language Processing.

This track aims to bring together leading academic scientists, researchers, and research scholars to exchange and share their experiences and research results on all aspects of the usage of HCI and AI within the realization of AI-s, as well as experiences in related field in between, such as HBC or Augmented Intelligence. It also provides an interdisciplinary platform for researchers, practitioners, and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered within the realization of AI-s, in order to identify shared purposes and improving a mutual understanding for the next generation of researchers and system builders in the growing field of HCI&AI.

Track main topics

Topics include (but are not limited to):

- Human Computer Interaction
- Artificial Intelligence
- Human-based Computation

- Augmented Intelligence
- Intelligent User Interfaces
- Conversational User Interfaces
- Intelligent Data Visualization
- AI Methods for Adaptive User Interfaces

Track Co-Chairs

Name – Surname (primary contact)	Di Mascio Tania
Title	Prof.
E-mail	tania.dimascio@univaq.it
Affiliation	DISIM - University of L'Aquila (Italy)

Name – Surname (primary contact)	Laura Luigi
Title	Prof.
E-mail	luigi.laura@uninettunouniversity.net
Affiliation	UniNettuno University (Italy)

Name – Surname	Veglianti Eleonora
Title	PhD
E-mail	eleonora.veglianti@univ-catholille.fr
Affiliation	FGES department at the Catholique University of Lille (France)

Bios of track Co-Chairs

Tania Di Mascio is Associate Professor at the Department of Engineering Computer Science and Mathematics (DISIM) of University of L'Aquila, Italy, where he teaches "Interactive System Design" and "Advanced DataBases". She obtained a Ph.D. working on HCI research field and she awarded a master's degree in Electronic Engineering. She cooperated with national and international research institutes. Her primary research activities are in HCI, user interface usability and accessibility, as well as in TEL, with a focus on

itAIS2021
XVIII Conference of the Italian Chapter of AIS
Digital resilience and sustainability: people, organizations, and society

information visualization and interaction paradigms. She is/was coordinator of several national and international projects. She is author or co-author of more than 100 papers in peer-reviewed journals and international and national conferences. She is a Committees member of international and national conferences in HCI and TEL, she also is Editorial Board of International Journal in the same research fields.

Luigi Laura is currently Associate Professor of Computer Science Engineering in the International Telematic University UNINETTUNO, where he teaches "Big Data Platforms" and "Theoretical Computer Science". Since 2000 he lectured, in Sapienza and Tor Vergata universities, several courses including "Computer Programming", "Algorithms and Data Structures", "Computational Complexity and Models", and "Web-based Systems Design"; he has been the Thesis Advisor of more than one hundred students. Since 2020 he is the president of the committee for the Italian Olympiads in Informatics http://www.olimpiadi-informatica.it/ (OII) and since 2006 he is the trainer of the Italian team for the International Olympiads in Informatics http://ioinformatics.org/ (IOI). His research interests involve machine learning, algorithms for massive scale data, with a particular focus on graph algorithms, on-line algorithms and algorithms in alternative computational models. He authored more than seventy international publications, including international journals and refereed conference proceedings.

Eleonora Veglianti is a Post Doc in the FGES department at the Catholique University of Lille, France. She holds a Ph.D. at University of Perugia, Italy. She collaborates with several universities, also foreigners. She spent different periods abroad to collect data for her researches and she has an expertise also about China. She was a visiting Ph.D. student in Wuhan University, in China. She is author of several scientific papers. Her main focus is on: smart cities, artificial intelligence, digital transformation and innovation issues.

Track programme committee members

Federica Caruso, University of L'Aquila, Italy, federica.caruso@univaq.it
Luigi De Russis, Politecnico di Torino, Italy, luigi.derussis@polito.it
Fausto Fasano, University of Molise, Italy, fausto.fasano@unimol.it
Maristella Matera, Politecnico di Milano, Italy, maristella.matera@polimi.it
Gianluigi Me, LUISS University, Italy, gme@luiss.it
Maurizio Naldi, LUMSA University, Italy, m.naldi@lumsa.it
Laura Tarantino, University of L'Aquila, Italy, laura.tarantino@univaq.it
Massimo Zancanaro, FBK Trento, Italy, zancana@fbk.eu