Preface

The UN Convention on the Rights of Persons with Disabilities (PwDs), article 9, defines (Information and Communication Technology) ICT accessibility as an important part of accessibility rights [1]. The World Health Organization (WHO) estimates that one billion persons live with disabilities, and that 80% of those live in developing nations, where infirmity and disabilities are real drivers of exclusion and poverty [2]. Moreover, as stated by the WHO the number of people with disability is dramatically increasing, due to demographic trends and increases in chronic health conditions, among other causes [2]. What's more is that people with disabilities are disproportionately affected by the COVID-19 pandemic.

ICTs have a crucial role to play. In fact, that technologies and services are accessible is not merely a basic human right, but ICTs have the potential to bring a real difference to the quality of life of people living with difficult or debilitating conditions or disabilities. ICTs are advancing exponentially, while their cost is plummeting. Nevertheless, health care demand is rising, accessible technologies and services are required, and the costs continue to rise. This calls for additional research and adoption of technologies that can help to meet these challenges, since ICT for Health, Accessibility and Wellbeing still continues to lag behind.

This research calls for the design, implementation, user-centered evaluation and standardization of new and future inclusive and sustainable technologies that benefit all: healthy people, people with disabilities or other impairments, people having chronic diseases, etc. This calls for multi- and interdisciplinary research at the interface between Information and Communication Technologies, Biomedical, Neuro-cognitive, and Experimental research, which puts users with disabilities at the epicenter and aims to engage in a co-creation and co-design approach. Specifically, the focus should be placed on user-oriented design and innovation, as well as user-centered evaluation. New intuitive ways of human-computer interaction (e.g., augmented and virtual reality, natural language processing) and user feedback and acceptance are among the primary factors that need to be examined in order to propose more intuitive and user-tailored ICT solutions.

Therefore, the conference proceedings present state-of-the-art multi- and interdisciplinary research in ICT for Health, Accessibility and Wellbeing. This very exciting volume promises to deliver to the readers a broad view of how ICTs can be applied to address challenges in terms of health, accessibility and wellbeing, with accepted papers that showcase research and development of different ICTs and their application in various end-user domains, e.g., older adults, people with dementia, stroke patients. Finally, the technical program was further strengthened with two keynote talks delivered by Eduardo Fernandez Jover on enhancing the functional visual abilities of blind individuals with brain implants, and Virginio Cantoni on new technologies and the support and accessibility of cultural heritage.

Part of the Series "ICT for Societal Challenges", the IC-IHAW 2022 conference brings together academics, industry experts, and education leaders from all over the world to discuss an incredibly wide array of topics, including machine learning, robotics, augmented reality, natural language processing to address problems for older adults, people with dementia, stroke patients, to name a few.

The conference received a total of 33 papers, with the submitting authors originating from 19 countries from all parts of the globe including Europe, Africa, Asia, USA and Canada. From the submitted papers, 14 papers were accepted for presentation and publication in the Springer Conference proceedings, yielding an acceptance rate of 42%. Every paper went through a rigorous review process, in which each paper received at least two expert Single-blind reviews, whereas most of the papers received more than three reviews.

The Technical Program of IC-IHAW 2022 consisted of five sessions (Visual impairment and ICT for mobility, ICT for seniors assistance, ICT and student health, ICT and wellbeing, ICT and health prevention), which were presented as a virtual event.

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References

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