

## Guest Editorial

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# Ergonomics in a Global World

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From August 26–30, 2018, the 20th Congress of the International Ergonomics Association (IEA) was held in Florence, Italy. The International Ergonomics Association (IEA) ([www.iea.cc](http://www.iea.cc)), founded in 1959, is now composed of over 50 national scientific societies of Ergonomics and Human Factors (HF/E). The IEA Congress brings together thousands of practitioners, and promotes technical adaptation of production systems to actual human potential. The IEA promotes the dialogue between scientific disciplines, science and industry; and collaborates with public institutions such as the The Organisation for Economic Co-operation and Development (OECD), the United Nations (UN), the World Health Organization (WHO), the World Organization for Standards (ISO) and the International Commission for Health at Work (ICOH).

Italy was chosen for the first time in 60 years as the venue for the triennial IEA Congress. The Italian Society of Ergonomics, supported by the organizing and professional committee, undertook the task of bringing together researchers, ergonomics experts and professionals committed to improving human well-being and productive activities, system safety and product ergonomics.

The IEA Congress was a really global event with a large participation of ergonomists from five continents. Over 1600 delegates (including 446 students) from more than 70 countries from all continents (52%–828 Europe; 12%–193 Italy; 12%–183 Latin America; 11%–167 North America; 20%–315 Asia; 2%–18 Africa; 4% (38) Oceania) were in attendance. The eight plenary sessions were centred on the Congress theme, *Creativity in Practice*, and focused on how ergonomics and human factors is applied creatively to the various production sectors

- from manufacturing to healthcare, from military to aerospace, to artificial intelligence and robotics. There were multiple themes during the 16 plenary sessions. The objective of the Scientific Organizers was to show how in practice research and innovation are connected with the various productive sectors. The goal was to bring out the multidisciplinary approach, an essential feature of ergonomics, and to provide a view of the world through the lens of solutions to real problems in a constant intercultural and interprofessional dialogue.

The IEA Technical Committees selected scientific contributions from 25 thematic areas such as ergonomics in design (222 articles), ergonomics in manufacturing, agriculture, construction and transport (118 articles) and health care (102 articles).

The Congress was an important event that allowed a diverse community to meet and recognize each other in a global world with different challenges, but with the role of the human being at the center. The ergonomic session in the future world was an unprecedented initiative of the organizing committee that allowed to enhance the knowledge gathered from the networks of the federated companies affiliated with the IEA and the major national societies. Each of the speakers discussed the future of ergonomics.

Researchers and practitioners shared their scientific work in multidisciplinary discussions, for a rich program of 1,439 presentations and 1,012 (Africa 32, Asia 231, Europe 482, Latin America 152, North America 94, Oceania 21) papers published in a 10 volume Congress Proceedings published by Springer.

The highest quality scientific work presented during the conference was selected for publication in the most prestigious international journals of ergonomics and human factors, and “WORK” agreed to have a

dedicated section to IEA2018 in all its 2019 issues. This is a great occasion to create bridges among ergonomic and human factors scientific research belonging to different areas of interventions.

In this issue, we introduce the three first papers that were discussed during Congress. These three papers refer to the area of physical ergonomics. These authors come from different parts of the world, which underscores the global perspective of the Congress. The paper, *ACD<sup>3</sup>; as a framework for design of ergonomic workplaces* by Lars-Ola Bligård and Cecilia Berlin, introduces a framework as a guide in collaborative workplace design, focussing on planning and documenting which decisions and activities should involve E/HF expertise. *Evaluation of subjective perceived rating for grip strength depending on handedness for various target force levels* by Yong-Ku Kong et al., analyzes the accuracy of subjective perception for grip force exertions associated

with handedness and outlines that the subjective perception of exertion shows different patterns on the handedness for various target force levels. Finally, *Theoretical impact of workplace-based primary prevention of lumbar disc surgery in a French region: a pilot study* by Natacha Fouquet et al. assesses the theoretical impact of workplace-based primary interventions designed to reduce exposure to personal and/or work-related risk factors for LDS and points out the importance of performing prevention scenarios which combine actions on personal and occupational risk factors rather than a prevention focused only on occupational risk factors.

On behalf of the IEA2018 Organising Committee, we are grateful to the Editor of WORK for this innovative collaboration which will have a long lasting impact on advancing the body of knowledge in ergonomics.