Dear members and friends of the International Ergonomics Association (IEA) Ergonomics in Design for All Technical Committee,

Welcome to our second year and fourth newsletter!

Promoting Ergonomics in Design for All is a core activity of our EinDfA TC. If you have any news on conferences, publications or standards, let me know by the end of September for the next newsletter.

You can find information about objectives, domains of interest, members of the TC here: http://www.iea.cc/about/technical.php?id=56d641e4ddc48

I wish you a pleasant reading and good work,
Isabella T. Steffan
IEA Ergonomics in Design for All - TC chairperson

A MESSAGE FROM OUR IEA PRESIDENT, PROFESSOR YUSHI FUJITA

Congratulations for the fourth Newsletter of the Ergonomics in Design for All Technical Committee (TC). I am grateful for the opportunity given to me to post a message.

It is one of the most important strategies of IEA to reinforce the ability to take a leadership role in promoting the cutting-edge human factors and ergonomics (HFE). The Ergonomics in Design for All TC is the first TC which has been established in our term.

I strongly supported the proposal to establish the TC, and appreciated the enthusiasm of the chair and members.

It is needless to emphasise the importance of topics that the Design for All TC is handling. They are absolutely relevant in terms of contributing to the basics of human well-being as well as responding to changing life styles. This well reflects the way that HFE should develop itself.

IEA was involved in the establishment of ISO/TC159, and has long been contributing to international standardisation. I am proud that a lot of experts who are the members of federated societies of IEA are involved in this very important activity. It is even more desirable if IEA technical committees can publish guidance, guidelines, or any other influential documents. A good practice is EQUID (Ergonomic Quality in Design). EQUID was developed by the EQUID Committee, which intended to develop and manage activities related to the use of ergonomics knowledge and methods in the design process. EQUID Version 2.0 has formally been published from the IEA Press - It is downloadable from the IEA website (www.iea.cc/project/recent.html). This is an ideal approach for IEA for many reasons: EQUID is being implemented in industry; EQUID stimulated ISO/TC159 to create a new working group for ergonomics process standards, i.e., SC1/WG8; EQUID is cited in an ISO standard. This way, EQUID has made it explicit to the public and industries that IEA is promoting good HFE on the global scale. It perfectly meets the mission of IEA (www.iea.cc/about/index.html). I hope that the Design for All TC will make similar contributions. In the long run, it will improve the recognition of HFE.

STANDARDS. Accessibility standards developed in ISO/TC159 “Ergonomics”.
by Ken Sagawa, TC co-chair

Accessibility is one of the highlighted areas in ISO/TC159 "Ergonomics". Immediately after the publication of ISO/IEC Guide 71 (same as Guide 6 in CEN) in 2001, TC159 formally established the first working group for accessibility in 2002 (TC159/WG2) and various technical activities and promotions had been started. TC159 had taken these actions because basic ergonomics knowledge and data on human characteristics and abilities,
A NEW CENTRE FOR UNIVERSAL DESIGN

The CUDA Centre for Universal Design Australia has been set up in 2016 to bring diverse groups together for the purpose of social and economic inclusion, to put Australia at the forefront of best practice in universal design and to gather and share knowledge and experience about universal design.

Among others, they seek to:
- be a resource centre for the general public, advocacy organisations, industry, commerce, and health sectors;
- innovate by understanding users' real needs within their operational context;
- develop standards to assist in the practical application of universal design principles within individual disciplines and sectors;
- support research programs relating to social and economic inclusion;
- link with similar centres overseas and be a platform for international connections.

universaldesignaustralia.net.au

especially for older people and people with disabilities, were quite necessary in accessible design but were lacking in the literature. Currently, the following three working groups are actively working for the development of standards (or technical reports) related to accessibility.

- TC159/WG2 “Ergonomics for people with special requirements”
- TC159/SC4/WG10 “Accessible design for consumer products”
- TC159/SC5/WG5 “Physical environment for people with special needs”

In addition to these WGs, CAG (chairman’s advisory group) has been taking a role for coordinating and harmonising accessibility-related works in TC159.

Work items currently under development in TC159 are as follows:

This is a Technical Report collecting basic human data and ergonomic knowledge useful for increasing accessibility in products, services and environments. Ergonomics data includes three categories, sensory (vision, hearing, tactile and thermal sense), physical (body size, movement, muscle strength) and cognitive abilities (attention, information processing, memory). This document was developed to support ISO/IEC Guide 71 (2001, revised in 2014) for standards developers as well as designers in their application of the Guide 71. The first edition of this TR was published in 2008, and now being revised into the 2nd edition with more available data which will be published early next year of 2018.

■ ISO/WD 21055 “Ergonomics—Accessible design—Minimum legible font size”
This international standard proposes a method to estimate the minimum legible font size at variable viewing conditions such as age, viewing distance, and luminance. When these three variables are known, it is possible with the proposed formula to get an appropriate font size for the specific condition. The font size is defined as the minimum legible one which will be used as a baseline for designing font in various context of use. The draft is in the CD stage.

■ ISO/CD 21056 “Ergonomics—Accessible design—Guidelines for designing tactile symbols and letters”
This international standard provides guidelines for designing tactile symbols and letters used as an alternative way to replace visual information for people with visual disabilities or to people when their eyes are temporarily occupied with some task like driving. The guidelines cover size, raised height, line width of tactile markings, together with ways on how to use tactile markings being based on human tactile sense of older people and people with visual disabilities. The draft is now in the CD stage and will soon proceed to the DIS stage.

■ ISO/WI 24500-1  “Ergonomics—Accessible design—Indicator lamps on consumer products”
Indicator lamps are small lamps used in household appliances to inform users of a status or to provide a feedback of operation. This international standard provides design guidelines for those lamps to increase visibility in particular for older people and people with visual disabilities (low vision) and to avoid any confusion caused by misidentification of the lamp indication. The draft is in the NP stage and will proceed to the CD stage soon.

■ ISO/WI 24500-2  “Ergonomics—Accessible design—Voice guides for consumer products”
Voice information is frequently used in household appliances not only for operating functions but for as instruction guides to people with visual disabilities. Clear and comprehensive voices are necessary. This international standard provides guidelines for voice guides for ease of hearing and comprehension for older people. The draft is in the NP stage and will proceed to the CD stage.

■ ISO/WI 24505 Part 2 to Part 4 (to be proposed)  “Ergonomics—Accessible design—Method for creating colour combination”
A systematic method for creating visible colour combination is necessary when designers use colours for various purposes. To meet this practical need, ISO 24505-1 Part 1 was published in 2006 in which a method for selecting colours for a combination was provided on the basis of a concept of colour category.
While ISO 24505-1 provides the method for older people (and young people too), there are more needs from people with colour defects and people with low vision. ISO/WI 24505-2 Part 2 and 24505-3 Part 3 are being developed to meet these requests, the former for colour defects and the latter for low vision. For the application of these standards in real situations, ISO 24505-4 Part 4 will be developed on how to use those sets of standards correctly. The drafts for Part 2 to 4 are in preparation for the new work item proposal.

ISO/CD 24507 “Ergonomics—Accessible design—Doors and handles of consumer products”

In contrast with above basic ergonomic standards, this is a product-oriented standard which aims to provide specific requirements and recommendations to doors and handles equipped to consumer products such as home appliances to increase accessibility in handling and manipulation. Size, location, height, surface-finish, required force and others in designing doors and handles are to be standardised for the widest range of users.

The standards developed or to be developed in TC159 “Ergonomics” are mostly fundamental design standards with a clear focus on ergonomic aspects in design issues. Those standards can be horizontally applied to various design fields to raise a level of accessibility in products, services and environments. Ergonomic standards relevant for accessibility are still in the beginning stage and many more work items will be emerging in TC159.

For more details please visit: www.iso.org/committee/53348.html

FEBC Conference. Brussels, June 26 & 27 2017
Workers and Creativity: How to improve working conditions through participative methods?
by Sylvain Leduc

The FEBC Conference is a joined a conference organised by FEES, ETUI (European Trade Union Institute), BES (Belgium Ergonomics Society) and CREE (Center for Registration of European Ergonomist).

The conference will focus on issues of creativity related to improving working conditions by involving workers and their health and safety representatives and it foreshadows the 20th international congress of the IEA (Florence, August 2018), The theme of the congress is ‘Creativity in practice’.

The conference focuses on the issues of creativity related to the improvement of working conditions, through the participation of all workers: how creative are workers in designing/rectifying work situations? Does the participation and creativity of workers as experts in their activity allow the co-construction of suitable, shared solutions for improving and transforming working conditions for all? Can participatory ergonomics provide answers to changes in the quality of work and employment status, to issues associated with increasing the age of retirement, the ageing workforce and the challenges of technological advances and labour-related changes (industry 4.0, digitalisation, robotisation, cobotics, etc.)? What are the prerequisites for the participation of all workers in ergonomic interventions?

The conference is in English and French (simultaneous interpretation) and registration is free of charge but mandatory: goo.gl/UzfCOa
CONGRATULATIONS!

Dr Andrew Petersen, CPE, JP (Qual), at the Human Factors and Ergonomics Society of Australia Conference in Queensland, Australia, in November 2016 has been awarded with the Society Medal for outstanding service to and promotion of the HFESA over at least seven years. The Award is in the form of a medal inscribed with the recipient's name.

Christel de Bakker, a PhD candidate of the TU/e Building Lighting group has been awarded a Fulbright scholarship. Every year, the Fulbright Center awards top candidates from master students, PhD students and researchers with such a scholarship.

Christel de Bakker performs her research in the project “Creating Healthy Environments – Offices”, a public private partnership between Philips Lighting B.V. and the Building Lighting group of TU/e within the Lighting Flagship of the Intelligent Lighting Institute (ILI). Her interest lies in reducing the energy consumption of open-plan offices while maintaining the visual comfort of the occupants. This scholarship will enable Christel to work together with top researchers in the United States on local lighting control strategies.

Her research has been focusing on the European context in open office spaces and can now be enhanced to also consider the North American situation, investigating to what extent human centric lighting solutions for open plan offices can be optimised similarly in the US than in Europe.

RECENT PUBLICATIONS

Universal Design in Universal Design in Higher Education: From Principles to Practice (Sheryl E. Burgstahler, Harvard Education Press, 08 sept 2015 - 368 pages)

This second edition, revised and expanded, is a comprehensive guide for creating accessible college and university programmes.