



Ergonomics in Design for All/ Newsletter

Dear Members and Friends of the International Ergonomics Association (IEA),
Ergonomics in Design for All Technical Committee,
I hope that you and your loved are well, and that you are not suffering too much from the arrangements that have had to be made for the corona virus. It is a challenging time.

**Welcome to our fifth year and fifteen newsletters:
have a look at it, and mark your diaries!**

With very best wishes, I wish you good luck with your work,

Isabella T. Steffan
IEA Ergonomics in Design for All TC
Chairperson

CONGRESSES AND GUIDELINES

THE NEXT FULLY VIRTUAL IEA TRIENNIAL CONGRESS IEA2021—21st triennial congress, June 13-18, 2021

Deadline for submissions: February 9th.

The IEA 2021 planning committee recently made the very difficult decision to cancel the in-person portion of the meeting. Read more about this decision [here](#).

On 19 February, rates will increase for IEA members and non-members. All in-person registrations will be changed to virtual and if already paid, then refunds will be issued within 4-6 weeks. Finalized registration rates are available [here](#).

There are over 30 exciting tracks being organized for the IEA Congress covering a wide range of topics in HF/E, in addition to special sessions. Ergonomics in Design for All is one of the top ten tracks that received the most submissions.

The great news is that it has been developed a robust technical program with nearly 1000 presentations, more than 40 Special Symposia.

In Ergonomics in Design for All track, there are 36 submissions, and 3 Special Symposia on:

[DIFFERENT APPROACHES FOR INCLUSIVE DESIGN](#)
[OPPORTUNITIES AND CHALLENGES OF DIGITAL TECHNOLOGIES FOR INCLUSION](#) with 2 slots, one focused on ICT and elderly
[ACCESSIBILITY AND USABILITY FOR ALL: INDOOR VISUAL ENVIRONMENTS](#)

See additional information on iea2021.org, as Organisers are working through the transition implications.

NEWS

ACCESS TO THE ACROPOLIS OF ATHENS

A project to improve access to the monuments on the Holy Rock of Athens, part of the programme to upgrade the services provided on the Acropolis allow the archaeological site to become completely accessible for people with disabilities and also for all citizens with mobility problems.

On December 3rd 2020 (the International Day of Persons with Disabilities), a panoramic lift, an ad hoc bent model, has been officially inaugurated.

Two vehicles (golf cart type), will facilitate access to the new slope lift for the disabled and people with mobility impairments.



Photos and original Greek text by the Hellenic Ministry of Culture:

www.culture.gov.gr/el/Information/SitePages/view.aspx?nID=3588

BOOKS

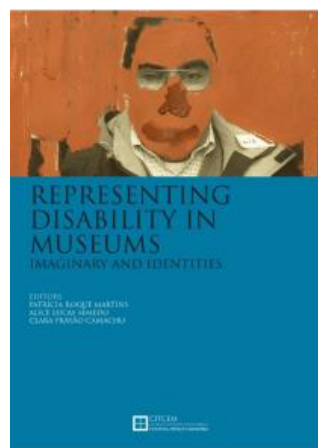
DISABILITY IN MUSEUMS: THEN AND NOW

Edited by Patrícia Roque Martins, Alice Lucas Semedo, Clara Frayão Camacho, Ed. CITCEM – Centro de Investigação Transdisciplinar Cultura, Espaço e Memória, Porto, December 2018

Recently it has been necessary in many cities to expand Representing Disability in Museums. Imaginary and Identities is an e-book about how disability has been, and currently is, portrayed in museums. The aim of the publication is to show empathetic and ethical ways of representing difference in museums of all types. Chapters cover the representation of disability in museum collections, the link between museums and disability, and cultural accessibility.

The open access e-book comes from Europe where museums have a long history and play a large part in tourism activity.

The title of the book is: *Representing Disability in Museums: Imaginary and Identities*; it is a 15MB PDF file.



UNIVERSAL DESIGN AND AGE-FRIENDLY SOCIETY

The Norwegian Association of Local and Regional Authorities (KS) is the organisation for all local governments in Norway. KS' newest handbook on age-friendly communities is now available in English:

Handbook for Age-Friendly Communities (2020)

Several other booklets with examples of universal design and age-friendly society from Norwegian municipalities and counties are already available in English:

Universal design contributes to an age-friendly society (2019).pdf

Useful for all necessary for some.pdf

Young or Old, Universal Design Benefits Everyone

Design for Diversity Universal Design in Schools and Kindergartens in Norway

The Importance of Sharing Views from KS' International Network for Universal Design



Free download: Handbook for Age-Friendly Communities (2020)

FOCUS

ISO TR22411:2021 ERGONOMICS DATA FOR USE IN THE APPLICATION OF ISO/IEC GUIDE 71:2014 A COLLECTION OF HUMAN DATA ON ACCESSIBILITY, PUBLISHED JANUARY 2021 FROM ISO

by **Ken Sagawa**, Co-project leader of ISO/TR22411 2nd edition

Human data, especially on aging and disabilities, are vitally important for considering and designing accessibility of products, services and environment to make them easy-to-use for older persons and persons with various types of disabilities. When you try to design tactile symbols, for example, to convey information to persons with visual disabilities or even to sighted people when the eyes are occupied with some visual task such as driving, you will probably be worrying about how large the tactile symbols should be and try to get useful information from some literature. We know the tactile symbols should be neither too small nor too large, but do not know what is an appropriate size for good tactile design.

There are so many cases like this in design for all or other design concepts related to accessibility. However, unfortunately, there has been no sufficient data sources to respond this technical question probably due to the difficulty to obtain data from a large number of samples to cover variabilities of human beings, especially persons with disabilities.

To meet this technical request, ISO has just published a technical report, ISO/TR22411 2nd edition of above title, that contains a large amount of ergonomics data concerning human aging and disabilities (**Figure 1**).

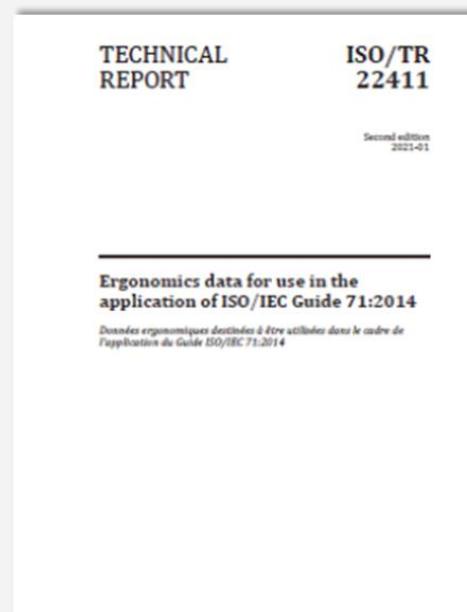


Figure 1. Cover page of ISO/TR22411 2nd edition:2021

The TR22411 was first published in 2008 to support ISO/IEC Guide 71:2001 by providing both human data and design considerations related to accessibility. After a long period that made some contents obsolete and also being triggered by the revision of Guide 71 in 2014, the TR was renewed the human data part only, as a first step, and has just published in January 2021. As its title says, this report is a supporting document for ISO/IEC Guide 71:2014 and useful for standards developers, but it is also available in its basic nature for any designers who work for older persons and persons with disabilities.

The report contains a large number and a variety of data items compared to the 1st edition of the TR, covering human sensory, physical, and cognitive characteristics and capabilities. Data were collected from academic journals/books, institutional databases (universities/research institutes), and existing standards (international/national), all being based on sufficient number of samples to cover the variabilities of older persons and persons with disabilities. A total of 58 data items (28 sensory, 24 physical, and 6 cognitive items) were contained in the TR with 126 figures and 45 tables.

Figure 2 is one example of vision data that show minimum legible font size for 59 low vision people when they read a character presented on a display with different font styles (serif and sans-serif) and different viewing distances (0.5 m and 1.5 m).

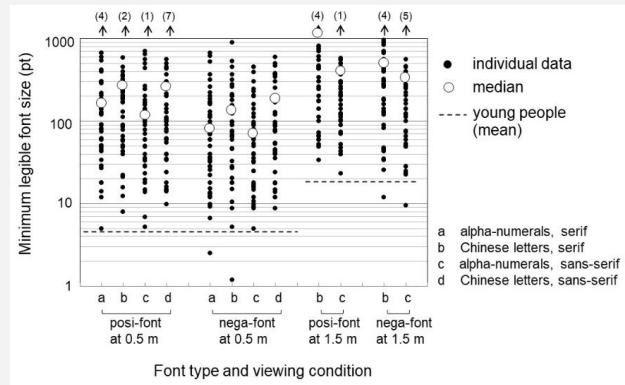


Figure 2. Minimum legible font size for 59 people with low vision contained in TR22411 2nd ed.:2021 (redrawn from the original).

The font size largely varies among people with low vision (see individual dots) ranging from about 10 point (pt), which is nearly the same level for young and older people with no impairment, to about 1000 pt. The median level is about 100 pt which is ten times larger than the people with no impairment. Furthermore, it can be understood that the sans-serif font is more legible than the serif font, slightly but consistently. That ergonomic knowledge derived from this type of data will be usefully used for designing visual signs where people with low vision are involved.

It should be also noted that all the figures in the TR have their textual descriptions in Annex for readers with visual disabilities to increase accessibility for their understanding the diagrams. ISO issued a news on this publication at <https://www.iso.org/news/ref2612.html>.

Promoting Ergonomics in Design for All is a core activity of our EinDfA TC.
 You can find information about objectives, domains of interest, members of the TC here:

<https://iea.cc/member/ergonomics-in-design-for-all-eindfa/>

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