

Projects-Universal design in botanic gardens

Participation in Erasmus + COME IN! project:

In cooperation with the Hungarian Arboretum and Botanical Gardens Association (MABOSZ), our professional leader, Erzsébet Fördős-Hódy, representing the Universal Design Center, attended a conference. The EU funded Erasmus + project event was held in Poznan Poland between 9-13 June 2019.

The several days conference 'Come in' featuring several professional presentations and poster exhibitions at the faculty of Biology of Adam Mickiewicz University in Poznan, in addition, the organizers enriched the program with professional excursions at the AMU Botanical Garden and (Special Orientation Park of the Special Educational Centre for Blind Children in Owieńska).



Figure 1.- Orientation park pathway with plantings Owieńska

Main topic of the event was the presentation of accessibility and universal design solutions in the creation of the international botanic gardens and the operation of their services.



Figure 2. Owinska Specially created playground for blind children

Paul Smith (Botanic Gardens, more than just a pretty face? How we deliver societal impact?)

Jarmila Skružná et al. (From the exhibition A touch of nature to international project Botanical garden: COME IN! –From the margin of attention to the great interest...)

Åsa Kågeson (The Accessibility Database, a method of empowering people)

Jane Stoneham (Helping people engage with their environment in new ways)

Ewa Antoniewska, Dagmara Lib, Narcyz Piórecki (Universal Sensory Garden in the Bolestraszyce Arboretum)

Marie Křiváková, Jitka Datinská (Interpretation of the White Carpathians for people with physical disabilities)

Erzsébet Fördős-Hódy (Universal design in Botanical Gardens)

Zsuzsa Szendi Hungarian Gardens of Senses

Jana Dvořáčková (Association of Horticulture therapy in the Czech Republic)

Zuzana Galle Lipka –(School facility for environmental education is involved in environmental education for more than 25 years)

Eva Sahlin (Using Nature Based Therapy for rehabilitation and prevention – results from Green Rehab at the Gothenburg botanical garden)

Eva-Lena Larsson (Presentation of a successful nature-based rehabilitation model to help people with burnout to regain health and work capacity)

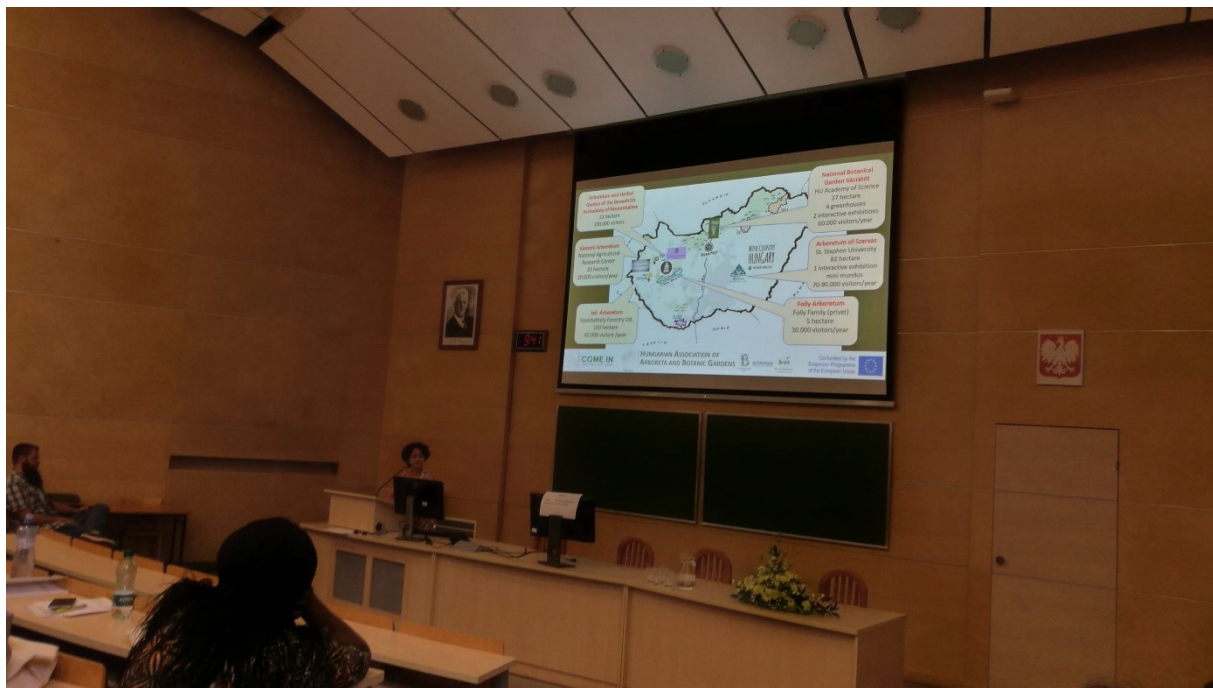


Figure 3. –Presentation on the faculty of Biology of the University of Adam Mickiewicz in Poznan Biológia (Zsuzsa Szendi, MABOSZ)

Summary of some presentations are available in English on the following website

http://www.obuam.robia.pl/invited_speakers,i3525.html

Universal design in botanic gardens (Summary of the presentation of our Universal Design Information and Research Center is available :<http://www.etikk.hu/wp-content/uploads/2019/09/Universal-Design-presentation-FHE-20190611.pdf>

Examination of universal design 7 principles in botanical gardens:

Accessibility and universal design often go hand in hand. If a universal design based proactive planning is fully implemented accessibility is not necessary because barriers would not be included in plans nor barriers be built in existing buildings, facilities, products and services.

Principles of universal design (equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, size and space for approach and use). In case of realisation all the above mentioned criteria must be considered and defined very carefully.



Figure1. 7 Principles of universal design

If you visit a botanical garden or an arboretum, the main priority is that available services provide equal opportunities for all, collections, exhibitions and habitats are accessible furthermore information diversity and symbiosis of function are also available.

Creating accessible pathways is an important task, pathways must be wheelchair, rollator, and baby carriage friendly. It is necessary to minimise surface roughness so cobblestone and natural stone should be avoided. If these surfaces are still constructed it is recommended to create an alternative pathway adopted to the width of a wheelchair and a baby carriage.

A stabilized gravel cover is recommended for proper, regular maintenance. Pathways are classified according to difficulty, and the degree of difficulty must be listed in appropriate ways (site information boards, website information).

In design of resting areas along pathways the needs of elderly people and people with reduced mobility should be taken into account.

Designated areas must be allocated proportionately so visitors don't necessarily have to be tired. Resting areas should be allocated in shady sun protected areas with easy access and close to accessible pathways.

Ergonomic design of outdoor furnitures should provide adequate support for the body. In case of a bank armrest and backrest help a person positioning, and standing up, table tops must have a knee free access because this kind of design help the use.

In case of placement of a bank it is advisable to create additional place for wheelchair furthermore sometimes group of furnitures no need to put in place on linear way because this solution is better for people with hearing disabilities.

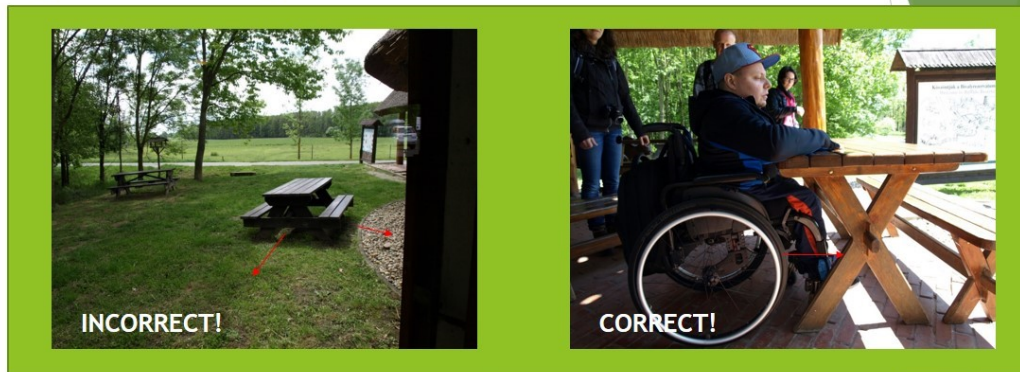
6. Low physical effort



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Figure 5. Example for universal designed outdoor furniture, accessible space, and pathway design

Furniture and equipment - examines by 7 principles and by accessibility



- Accessible approach and use of furniture (accessible connection between spaces EQUITABLE USE)
- Furniture and equipment usability (tables' and benches' height and form EQUITABLE USE, SIMPLE AND INTUITIVE USE, SIZE AND SPACE FOR APPROACH AND USE)



Figure 2 Universal design and accessible examination in a Buffalo reservation at Kápolnapuszta

Entrances, reception facilities and provided services must be built and designed according to the universal design principles.

An induction loop and a knee free desk must be built at the ticket office. The way of creation of the accessible toilet must meet the needs of all users. In case of facilities is essential that creation of doors must be threshold free with appropriate opening width. It is also essential that equipments and furnitures of exhibition halls(heights, the appearance of alternative information, lightings must be accessible.