THE 28TH IEEE INTERNATIONAL SYMPOSIUM ON INDUSTRIAL ELECTRONICS IEEE-ISIE 2019

12-14 JUNE 2019, VANCOUVER, CANADA

Special Session on

"Human-Assistive Technologies in the Real World"

Organized by

Daisuke Chugo: (Kwansei Gakuin University, chugo@kwansei.ac.jp)
Sho Yokota: (Toyo University, s-yokota@toyo.jp)
Gabor Sziebig: (The Arctic University of Norway, gabor.sziebig@uit.no)
Mihoko Niitsuma: (Chuo University, niitsuma@mech.chuo-u.ac.jp)
Hiroshi Hashimoto: (Advanced Institute of Industrial Technology, hashimoto@aiit.ac.jp)

Call for Papers

Human-assistive technologies are in high demand for overcoming the challenges of an aging society. Many assistive technologies considering human factors have been widely proposed in many conferences. The goal of these technologies is to be of practical use to their target people, which may include handicapped or elderly people, and make them happy in their daily life.

However, many reports have presented only concepts or technical achievements in laboratory rather than describing the evaluation of these technologies in actual use. There is a reason for this tendency; if we want to discuss technologies in the real world, we will have many difficulties (we call these, collectively, a "difficulty wall"). These studies will require complex procedures, for example, clearing safety reviews and implementation of informed consent. Furthermore, they will require cooperation between different fields, for example, therapists and doctors, and prototypes of these studies need to fulfill several governmental safety standards. To pass this wall, researchers need to be extremely energetic and have time, money, and human resources.

Accepted papers will be published in an IEEE proceedings volume and will be also submitted for the International Publication in *IEEExplore*

Passing this difficulty wall will lead to many benefits. Through demonstrations in the actual situation, we sometimes find technical problems that go unnoticed in the laboratory. Furthermore, the people we are actually trying to help can provide important feedback. As a result, we strongly believe that research on human-assistive technologies will be promoted by overcoming the difficulty wall as in Fig. 1.

Thus, the organizers propose a special session to discuss some case studies considering human-assistive technologies in the "real world." Our goal is to share many findings concerning real-world problems through real voices of actual situation and promote each study on human-assistive technology.

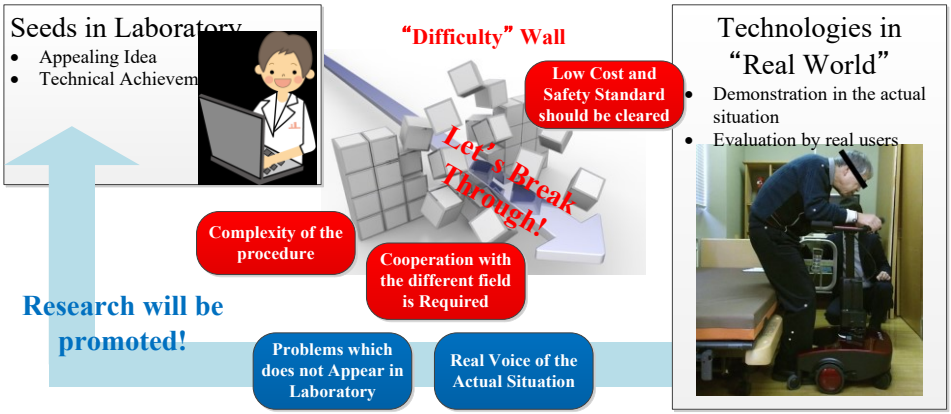

Fig.1 Overview of our proposed special session

Topics of interest include, but are not limited to:

Human Support System, Human System Interactions, Ambient intelligence
Sensing and Recognition, Life cycle innovation, Service modelling
Understanding of human perception and cognition, Adaptive System