



# **WORLD AUTOMATION CONGRESS**

**WAC 2018**

**13th Bi-annual Congress**

# **Lifetime Achievement Keynote**

## **No. WED-AM3**

**Noboru Takagi**  
**Toyama Prefectural University, Japan**

**Time: 11:50-12:50**  
**Date Wednesday June 6, 2018**  
**Chair: Yutaka Hata, Japan**  
**Venue: Stevenson Ballroom A**



### *Assistive Technology for the Visually Impaired Based on Image Processing*

**ABSTRACT:** It is not difficult for visually impaired people to access verbal information. This is because, for example, visually impaired people are able to use PCs independently if a software application called screen reader was installed in the PC. However, the visually impaired are very difficult to access visual information such as diagrams and graphs etc., and furthermore it is almost impossible for the

visually impaired to express their opinions and ideas by using visual information independently. Based on this background, we are developing assistive systems for the visually impaired. In the case where visually impaired people access visual information, they utilize tactile graphics, which are images that use raised surface so that a visually impaired person can feel them. Tactile graphics are created by sighted volunteers who are unfamiliar with computer operation. So, one of our systems is a software application for assisting creation of tactile graphics.

**Bio: Noboru Takagi** received the Bachelor of Engineering degree in electronics and communication engineering, the Master of Engineering degree in electrical engineering, and the Doctor of Engineering degree from Meiji University, Japan in 1989, 1991, and 1994, respectively. He worked for the Department of Electronics Engineering and Informatics, Toyama Prefectural University, Japan from 1991 to 2006. He was an associate professor at the Department of Intelligent Systems Design Engineering, Toyama Prefectural University, Japan from 2006 to 2014. He is currently a professor at the Department of Intelligent Systems Design Engineering, Toyama Prefectural University, Japan from 2014. He received the outstanding contribution award from Japan Society for Fuzzy Theory and Intelligent Informatics in 2012, the Best Paper Award at IFMIP 2010. He is a member of IEEE SMC Society, Japan Society for Fuzzy Theory and Intelligent Informatics, the Institute of Electronics, Information and Communication Engineers, Information Processing Society of Japan, the Virtual Reality Society of Japan, and Reliability Engineering Association of Japan.