



1 TUTORIAL/WORKSHOP TITLE

Haptics in Human Ability Augmentation

Workshops and Tutorials will take place on Monday, June 22, 2015 during the IEEE World Conference 2015 in Chicago, USA.

General Information:

Please insert any URL link to workshop/tutorial if available

Website: (None)

Type of Activity:

Please select:

- Panel Workshop¹
- Open Workshop²
- Tutorial³

Proposed Duration:

Please select:

- Half day
- Full day

Preferred time:

Please select:

- Morning
- Afternoon

2 ABSTRACT

Technology to support physical human motions through haptics would be a next promising field in haptics. It is becoming realistic to assist various motions including intellectual actions in everyday life, body motions of an athlete, and skills of professional work through computational sensory aids even with collective intelligence. Use of haptics enables the motion support to be real-time and unconscious, providing new forms of communication and knowledge/skill sharing. In this workshop we invite the world prominent researchers in the field of computational human augmentation, and visualize the future of computational and networked physical aids. The workshop clarifies the upcoming research topics of haptics in terms of human ability augmentation.

¹ The organizer proposes a topic, panel of speakers who have agreed to participate, a schedule and description

² The organizer proposes a topic, which (after approval) is disseminated openly; interested speakers apply to the organizer to participate. This style of workshop is ideal for exploring the degree of interest and activity in a new area.

³ Tutorials are self-contained seminars of established research areas that should provide training within and perhaps on periphery of traditional haptic related topics They should be focused on the proposed topic and should be presented by two or three experts in the field.



3 AUDIENCE

People who are interested in the future applications and needs of haptics, and who want to know upcoming elementary technologies.

4 SPEAKERS (tentative program)

Jun Rekimoto, the University of Tokyo
The Future of Human Augmentation and the Role of Haptics

Naotaka Fujii, Brain Science Institute RIKEN
Haptics in Substituted Reality

Masahiko Inami, Keio University
Physical Extension of Human Body by Controlled Sensory-Motor Coupling

Ali Israr, Disney Research
Haptic Illusions for Interactive Gameplay

Hiroyuki Shinoda, the University of Tokyo
Non-Contact Haptics for Human Augmentation

For Open Workshops fill-in point 6 below.

5 ORGANIZERS

Insert here details of each organizer as follows

- Prof. Hiroyuki Shinoda, The University of Tokyo
- Hiroyuki Shinoda is a professor in Graduate School of Frontier Sciences, the University of Tokyo, Japan. He received the BS degree in applied physics, the MS degree in information physics, and the PhD degree in electrical engineering from the University of Tokyo, in 1988, 1990, and 1995, respectively. He was an associate professor from 1995 in the Department of Electrical and Electronic Engineering, Tokyo University of Agriculture and Technology. After staying at UC Berkeley as a visiting scholar in 1999, he was an associate professor in the University of Tokyo from 2000 to 2012. His research interest includes information physics, tactile/haptic



interfaces, haptic sensors and displays, two-dimensional communication, and electromagnetic/acoustic measurement. He was a board member of SICE in 2008 and 2009, and is currently a VRSJ board member and a member of IEEJ, RSJ, JSME, and IEEE.

- Ali Israr, Disney Research
- Ali Israr is a Senior Research Engineer and a leading haptic researcher in Disney Research, the research arm of the Walt Disney Company. He received his B.Sc. in Mechanical Engineering from University of Engineering and Technology (Lahore, Pakistan) and M.S. and Ph.D. degrees in Mechanical Engineering from Purdue University (USA) in 2004 and 2007, respectively. Before joining Disney Research in 2009, Ali was a postdoctoral researcher in Mechatronics and Haptic Interfaces Labs, Rice University (USA). Ali's research interests are tactile perception, sensory illusions in touch, haptic technologies and haptic media.

6 CALL FOR CONTRIBUTIONS (OPTIONAL, Compulsory for Open Workshop)

This is a Panel workshop proposal.

For further info: please contact WHC2015 Workshop/Tutorial chairs at Workshops@haptics2015.org

Workshops and Tutorials Chairs

Rob Gray (Arizona State University Polytechnic, USA)
Mounia Ziat (Northern Michigan University, USA)
Antonio Frisoli (Scuola Superiore Sant'Anna, Italy)