

# TE06

## Virtual Reality

15:40-17:40

Room : 1st Floor-Brahms

Chair1 : Dong-soo Kwon ( KAIST, Korea )

Chair2 :

15:40 – 16:00

TE06-1

### Generating Human Motions in Virtual Environment

Ki-Ju Park, Seong Min Baek, Chang Jun Park,  
In Ho Lee(ETRI, KOREA)

- Introduction
- Vision-Based Motion Capture
- Extracting 2D features
- 3D Reconstruction
- UI for VR
- Conclusion

16:00 – 16:20

TE06-2

### Endoscopy Training Simulator Using a 4-DOF Haptic Device

Seong Youb Chung, Hyun Joong Yoon, Woo Jin Ahn,  
Doo Yong Lee(KAIST, KOREA)

- Introduction
- Simulator Architecture
- Navigation and Collision Detection
- Deformable Model and Force Reflection
- 4-DOF Haptic Device
- Conclusion

16:20 – 16:40

TE06-3

### Externalization of sound image in 3D sound system based on headphone

Youngsik Yoon, Youngjin Park(KAIST, KOREA)

3D sound user often finds the results that the sound image appear to originate either inside, or close to, the head when he uses headphone-based binaural system. This phenomenon is called in-head localization(IHL). The main factors were chosen to evaluate externalization performance : individualized HRTFs, near-field HRTF characteristics and reverberation. Direct comparison was conducted among them, especially two factors? reverberation and near-field HRTFs.

16:40 – 17:00

TE06-4

### Design of a novel haptic mouse system

hee-jin choi, dong-soo kwon(KAIST, KOREA),  
mun-sang kim(KIST, KOREA)

- A novel haptic mouse system is developed for human computer interface.
- Five bar mechanism is adapted for 2 dof force feedback with virtual environment.
- Double prismatic joint type mechanism is adapted to reflect 1 dof grabbing force feedback.
- Cable driven mechanism is used for actuation to reduce backlash and endow backdrivability.
- Virtual wall perception experiment is conducted to obtain force specification for haptic mouse.
- Average mouse workspace is measured using magnetic position tracker.



17:00 – 17:20

TE06-5

### A Study of The Wearable Input Device Based on Human Hand-Motions Recognition

Daehui Won, Hogil Lee, Jinyoung Kim(KITECH, KOREA)

In this paper, we propose and developed a keyglove using the touch-typing method as new solutions to the problem of text input into the mobile computing devices. This device recognizes that character is typed in though the hand's movements analysis and requires no additional space on a person's desktop or work surface, and can be easily used with computers of any size, even the smallest mobile computer, and is designed as an input device for wearable computers and virtual environment.

The concept of the wearable input device based on human hand-motios recognition

