

HDI²4D 2015

Human-Digital Content Interaction for Immersive 4D Home Entertainment
The 1st New Zealand-Korea Strategic Research Partnership Workshop

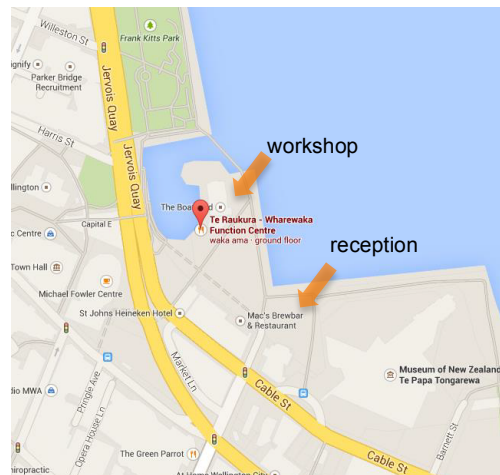


The workshop includes research presentations, discussions, and networking opportunities related to human-digital content interaction for immersive 4D home entertainment. We will discuss how to research and develop a new type of digital contents for 4D home entertainment shown in immersive display such as HMD, and human contents interfaces that can provide interactive experiences between a human viewer and 3D digital contents. Toward this end, the following topics will be discussed: physically-plausible human hand animation and force feedback, pseudo-haptic interaction and whole-body interaction, perception-based cinema-quality rendering for immersive display such as HMD and augmented reality techniques to seamlessly blend digital contents with cinematic scene.

25th February 2015

Workshop (9:00-17:00)

**Te Raukura - Wharewaka Function Centre (Room:Te Puni),
 Wellington, New Zealand**



<http://www.wharewakaoponeke.co.nz>

Reception Dinner (18:00-21:00)

Mac's Brewbar (<http://www.macsbrewbar.co.nz>)

PROGRAMME (25th February)

Start	End	25 th (Wednesday)
9:00	9:30	Welcome
9:30	10:20	Introduction of Research Activities
10:20	10:50	Morning Tea
10:50	12:00	Research Presentation 1
12:00	13:00	LUNCH
13:00	15:00	Research Presentation 2
15:00	15:30	Afternoon Tea
15:30	16:10	Panel Discussion 1 (The next generation 4D home entertainment)
16:10	16:40	Panel Discussion 2 (How to broaden network beyond the current team ?)
16:40	17:00	Closing
17:00	17:30	PI meeting (closed session)
18:00	21:00	Reception

COMMITTEE

General Chair

Taehyun Rhee (Victoria University of Wellington)

Organising Committee

Mark Billingham (University of Canterbury)

Young J. Kim (Ewha Womans University)

Gerard J. Kim (Korea University)

John Lewis (Victoria University of Wellington)

Gun Lee (University of Canterbury)

Welcome (30min)

- Introduction to project/workshop - Taehyun Rhee, Young J. Kim

Introduction of Research Activities (50min)

- Korea research activities - Young J. Kim, Gerard J. Kim
- NZ research activities - Taehyun. Rhee, Mark Billingham

Research Presentation 1 (70min)

Ewha Womans University

- "Computational Motion Research at Ewha Graphics Lab" - Young J. Kim
- "Interval-based Dynamic Voltage/Frequency Scaling Algorithm for GPGPU Applications" - Seongki Kim
- "Non-penetration Constraints Computation for Optimization-based Motion Planning" - Youngeun Lee
- "Fast and accurate penetration depth computation and its application" - Yeojin Kim
- "Physically-based character control under reduced gravity using momentum-mapped inverted pendulum (MMIP) model" - Yun-hyeong Kim

Research Presentation 2 (120min)

Korea University (40min) - Gerard J. Kim

- Intro. to research at DXP Lab, KU
- Illusory tactile feedback for finger/touch based interaction
- Interaction techniques and usability for wearables

University of Canterbury (The HitLab NZ) (40min)

- Introduction to HIT Lab NZ - Mark Billingham
- Gesture based AR Interaction Research at HIT Lab NZ - Mark Billingham
- Augmented Virtuality based Interaction in Immersive Cinematic Experience - Gun Lee

Victoria University of Wellington (40min)

- Introduction to Computer Graphics Programme at VUW - J.P. Lewis
- Perceptually based composition and rendering - Andrew Chalmers
- Visual discomfort in Head Mounted Display - Kieran Carnegie

Panel Discussion 1 (40min) - Moderator: Rhazes Spell, Gun Lee

The next generation 4D home entertainment

Panel Discussion 2 (30min) - Moderator: J.P. Lewis

How to broaden network beyond the current team ?