

# Michi Sato

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## Research Interests:

**Haptic Telecommunication.**  
Haptic Display, Virtual Reality, Human-Computer Interaction.

## Education:

**Ph.D., Informatics**  
University of Electro-Communications, Tokyo, Japan, expected in May 2014.  
Advised by Associate Prof. Kajimoto Hiroyuki.  
JSPS Research Fellow: 2011-2014.

**Fellowship student**  
Institute for Intelligent Systems and Robotics, Paris VI University, France, Sep.-Dec. 2010.  
Advised by Prof. Vincent Hayward.

**M.E., Human Communication**, University of Electro-Communications, 2011.  
**B.E., Human Communication**, University of Electro-Communications, 2009.

## Honors, Grants:

**Research Fellowships** of the Japan Society for the Promotion of Science for Young Scientists, 2011 - 2014.

**Best Paper Award**, "Development of a Head Rotation Interface by Using Hanger Reflex", IEEE RO-MAN2009, Sep 2009.

**Jury Recommend Works in Art Division of 12<sup>th</sup> Japan Media Arts Festival**, "Ants in the Pants", 2008.

**Institutional Program for Young Researcher Overseas Visits – Scholarship** for Internship, by Japan Society for the Promotion of Science, 2010.

**Interactive Presentation Award**, "The Investigation about Condition of Hanger Reflex", Interaction2009 (Information Processing Society of Japan), Japan, Mar 2009.

**Best Presentation Award**, "A Study of Head-Rotating Interface for Using Hanger Reflex", EntertainmentComputing2008, Japan, Oct 2008.

## Skills and Competencies:

Programming Languages – Java, C.  
3D CAD – SolidWorks.  
PCB CAD – EAGLE.  
Graphics – Adobe Photoshop, Illustrator, Flash, Premiere, After Effects.  
Knowledge – Nerve and Perception of Haptics.

## Language Proficiency:

Fluent in English.  
Excellent in Japanese.

## Research Training:

- (i) Project: **Kiss Transmission**  
Supervisor: Associate Professor Hiroyuki Kajimoto  
Period: 2010-  
Summary: This study shows a novel remote communication device for close relationships like lovers. We focus on kisses, since kisses are haptic communications on the mouths that can express deep emotion. We considered that if we mutually present the haptic sensation to each mouth, we can convey the expression of emotion, deepen their relationship.  
Information Movie: <http://youtu.be/PspagsTFvlg>
- (ii) Project: **Tactile Perception of a Water Surface**  
Supervisor: Associate Professor Hiroyuki Kajimoto  
Period: 2009-  
Summary: This study investigated the tactile perception of a liquid surface that can be clearly felt as a thin line by a hand moving in the liquid. Although this phenomenon was first reported by Meissner in 1859 and is quite well known, the underlying mechanism is poorly understood. This study aimed to clarify how we perceive the boundary between the atmosphere and water as a cutaneous sensation. We found that skin hair plays a major role in the perception on hairy skin, while surface tension does not significantly contribute to perception of a liquid surface. Furthermore, we found that glabrous skin has a smaller role than hairy skin in this sensation.  
Information Paper: <http://www.springerlink.com/content/0158571519827455/>
- (iii) Project: **Study of the Hanger Reflex**  
Supervisor: Associate Professor Hiroyuki Kajimoto  
Period: 2007-  
Summary: When a head is equipped with a hanger made of wire sideways, and its temporal region is sandwiched by the hanger, the head rotates unexpectedly. The phenomenon was named "Hanger Reflex". This study aims to clarify its mechanism and to investigate the navigation interface using it. We determined the necessary conditions of the Hanger Reflex, and we developed an interface that can induce head rotation by using the Hanger Reflex.  
Information Paper: <http://ieeexplore.ieee.org/xpl/articleDetails.jsp?tp=&arnumber=5326327>

**References:** **Hiroyuki Kajimoto**  
Associate Professor, University of Electro-Communications.  
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