

Emotional Attachment to Machines

New Ways of Relationship-Building in Japan

Freie Universität Berlin
Oct 25–26, 2019



Sense-Roid, © Nobuhiro Takahashi

Conference Organized by
Elena Giannoulis, Agnès Giard & Berthold Frommann
ERC-Funded Research Project
“Emotional Machines: The Technological Transformation
of Intimacy in Japan” (EMTECH)

Henry Ford Building
Lecture Hall B
Garystr. 35

Emotional Attachment to Machines: New Ways of Relationship-Building in Japan

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“Emotional Machines: The Technological Transformation of Intimacy in Japan” (EMTECH)

Freie Universität Berlin, Garystr. 35, 14195 Berlin, Henry Ford Building, Lecture Hall B

DAY ONE: Oct 25, 2019 | 9:30–18:30

9:30 | Welcome

9:45–10:00 | **Elena GIANNOULIS & EMTECH Team**
Introduction

10:00–11:15 | Keynote I – **Paul DUMOUCHEL** (Ritsumeikan University, Japan)
Desiring Machines

11:15–12:00 | **Kōhei OGAWA** (Osaka University, Japan)
Can Androids be a Social Entity for Us?

12:00–14:00 | Break

14:00–14:45 | **Tatsuya NOMURA** (Ryukoku University, Japan)
Rapport with Robots and a Possibility of Its Danger

14:45–15:30 | **Agnès GIARD** (Freie Universität Berlin, Germany)
Marrying a Digital Creature, Fake Weddings in 2.5D Space

15:30–16:00 | Break

16:00–16:45 | **Hidenobu SUMIOKA** (Hiroshi Ishiguro Laboratories; Advanced Telecommunications Research Institute International, Japan)
Mediated Social Touch to Build Intimate Human Relationship

16:45–17:30 | **Nobuhiro TAKAHASHI** (The University of Electro-Communications; Tokyo Institute of Technology, Japan)
Expression, Transmission, and Archiving of Humanity by Using “Interactive Humanoid Mediums”

17:30–18:30 | **Sense-Roid Workshop** (all participants are invited to test the Sense-Roid)

DAY TWO: 10:15–17:30 | Oct 26, 2019

10:15 | Welcome

10:30–11:30 | Keynote II – **Marc STEINBERG** (Concordia University, Canada)

Producing Intimacy: Characters and/as Mobile Media

11:30–12:15 | **Giulia DE TOGNI** (University of Edinburgh, UK)

Feeling the Heart in the Robot: Will ‘Robotic Hearts’ replace Human Hearts in AI-driven Health and Social Care Systems?

12:15–14:00 | Break

14:00–14:45 | **Anne ARONSSON** (University of Zurich, Switzerland)

Social Robots in Elderly Care: The Turn toward Emotional Machines in Contemporary Japan

14:45–15:30 | **Véronique AUBERGÉ** (Laboratoire d’Informatique de Grenoble, France)

“Socio-Affective Glue Robots” and Elderly Isolated People

15:30–16:00 | Break

16:00–16:45 | **Erez GOLANI SOLOMON** (Waseda University, Japan; Bezalel Academy of Arts & Design, Israel)

A Temple is a Machine for the Dead, and for the Living

16:45–17:30 | **Panel Discussion**

Chair: Agnès Giard

Panelists: Paul Dumouchel, Kōhei Ogawa, Carman Ng (University of Bremen),
Marc Steinberg, Hidenobu Sumioka

Freie Universität  Berlin



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FRIDAY: 9:30–18:30 | Oct 25, 2019

Freie Universität Berlin, Garystr. 35, Henry Ford Building, Lecture Hall B

9:45–10:00 | **Elena GIANNOULIS & EMTECH Team**

Introduction

10:00–11:15 | Keynote I – **Paul DUMOUCHEL**

(Ritsumeikan University, Japan)

Desiring Machines

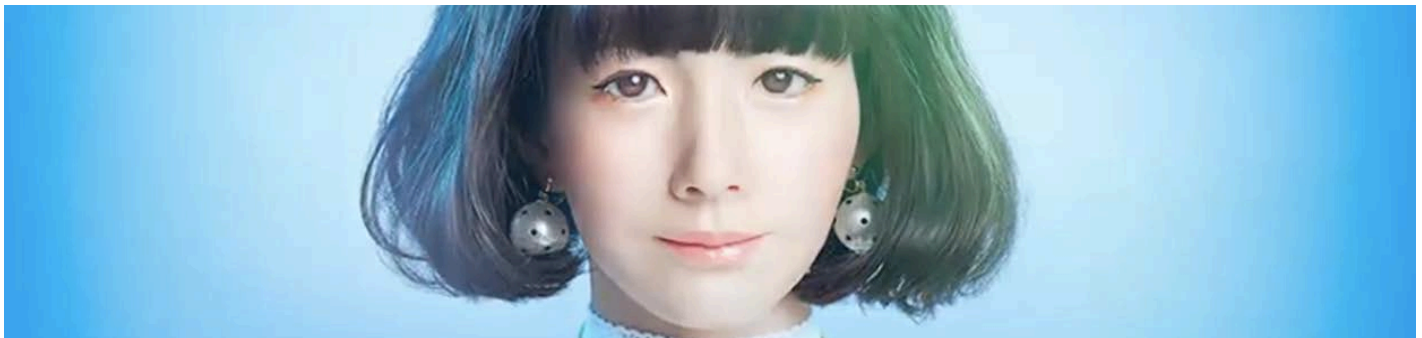
Is emotional attachment to machines different from attachment to other types of objects, a mug, a rock found on the beach? The common answer is ‘yes’ because interactive machines are made to give the impression they have feelings or care. This however presupposes that people confuse machines with persons. I will argue this is not the case, that we are attached to machines *because* they are machines and will focus on one aspect of this attachment rendered by the ‘double entendre’ expression “Desiring Machines”. It can be understood as the desire for machines, as models ‘embodying’ an ideal we fail to achieve, which I will analyze using a conference on the Borg delivered by a Vulcan scientist. It can also mean machines that desire and hope that we will appreciate them. I will use here Ian McEwan’s recent novel *Machines like Me* (2019).

11:15–12:00 | **Kōhei OGAWA**

(Osaka University, Japan)

Can Androids be a Social Entity for Us?

Why are we enthusiastically interested in human-like existences? In the first place, what is the meaning of ‘human-likeness’? At Hiroshi Ishiguro Laboratory, we are tackling these fundamental issues by creating androids (robots with human-like appearance) and conducting experiments in real-life environments. In this talk, we will question the roles androids could play in human society by describing concrete problematic cases we have been coping with and by analyzing the results of our experiments.



Android U © HIL

14:00–14:45 | **Tatsuya NOMURA**

(Ryukoku University, Japan)

Rapport with Robots and a Possibility of its Danger

In the field of human-robot interaction (HRI), some researchers who aim to forge long-term relationships expect people to form rapport, as emotional attachment, so that people continue to interact with robots. Our research group found that this rapport can be established dependent on several factors, including personal traits and behaviors of robots, and that people who have social anxiety tend to have closer rapport with robots in comparison with people without social anxiety. On the other hand, this trend can suggest the possibility of a person becoming addicted to interacting with robots. As the widespread reality of robots having realistic communication functions is impending, this possibility of addiction should be discussed from several perspectives, including HRI, sociology, and clinical psychology.

14:45–15:30 | **Agnès GIARD**

(Freie Universität Berlin, Germany)

Marrying a Digital Creature, Fake Weddings in 2.5D Space

In 2009, a Japanese man narrowly avoided divorce after his wife discovered his adulterous relationship with Nene, a character of a video game called *LovePlus*. One month later, another Japanese man married Nene. Since then – and in spite of the stigma associated with artificial relationships –, digital lovers are commonly offered marriage, through the use of fake marriage certificates, sham ceremonies, and pair rings. Such weddings can happen inside the game but also outside, in what is commonly referred to as “2.5D space” (*nitengo jigen kūkan*), a liminal space between fiction and reality. Focusing on these 2.5D weddings, and on some specific cases of Japanese women who introduce themselves as the “wife” or even as the “husband” of a character, I would like to analyze this phenomenon as a mirror revealing the “sentimental mechanisms” underlying Japanese societal developments.



Nizuma © Hibiki Works

16:00–16:45 | **Hidenobu SUMIOKA**

(Hiroshi Ishiguro Laboratories; Advanced Telecommunications Research Institute International, Japan)

Mediated Social Touch to Build Intimate Human Relationships

Interpersonal touch is a fundamental component of emotional attachment in social interaction and shows several effects such as stress reduction, a calming effect, and impression formation. Despite such effects on humans, human-robot interactions have mainly focused on visual-auditory information. Although studies in machine-mediated interaction are developing various devices that provide tactile stimuli to human users, serious validation studies are scarce. In my talk, I present how touch interaction with our teleoperated robot and huggable communication medium affects our feelings, behavior, and physiological states, and discuss the potential for intimate interaction between humans and robots at close distance.

16:45–17:30 | **Nobuhiro TAKAHASHI**

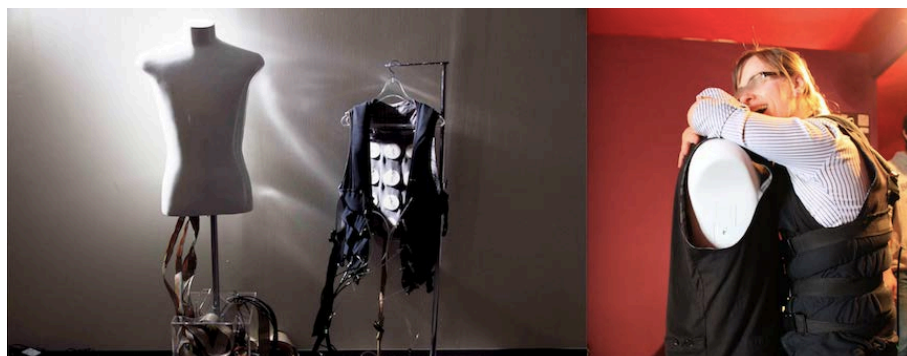
(The University of Electro-Communications; Tokyo Institute of Technology, Japan)

Expression, Transmission, and Archiving of Humanity by Using “Interactive Humanoid Mediums”

Haptic interfaces and humanoid robotics open the possibility of studying how emotion is transmitted between people and how it can be attached to robot bodies. In my research, I addressed these questions in several projects, which I will present in this talk. I will start with “Sense-Roid”, which was developed in 2010 to realize and explore a “self-hugging” experience. This will be followed by a presentation of recent advancements by using novel pneumatic actuators, which can record and play back haptic sensation. Furthermore, I will introduce the shape-changing humanoid, “SHIN-TAI”, which can transform into several body types by using artificial muscles and fats. Within my talk, I would like to discuss the recent developments and the future of human–human and human–robot communication.

17:30–18:30 | ***Sense-Roid Workshop***

All participants are invited to test the Sense-Roid.



Sense-Roid © N. Takahashi.

SATURDAY: 10:15–17:30 | Oct 26, 2019

10:15 | Welcome

10:30–11:30 | Keynote II – **Marc STEINBERG**

(Concordia University, Canada)

Producing Intimacy: Characters and/as Mobile Media

Intimacy and emotion attachment often rely on proximity and mobility; they are also dependent on the media production of this sense of proximity and the technological conditions of mobility. This talk addresses two forms of proximate media technologies that produce intimacy in Japan: characters and mobile phones. The character is both a technology, and an icon that circulates through particular material media and technologies. The mobile phone is itself a technological platform whose portability and small size afford it a most intimate role in the life of its user. Both characters and mobile media are also sites of intense commercialization, enabling the commodification of self on the one hand, and the production of lifeworlds on the other. Moreover, these media do not arise naturally, but rather are produced, managed, and carefully controlled. This talk will focus on the managerial strategies around the production of intimacy, habit, proximity, and communication through the character and the mobile phone. Since the character and the mobile phone are also technologies that form the bedrock of Japanese visual culture, this talk will in turn reflect on the visual cultures of the management of emotional attachment.



LovePlus © Konami

11:30–12:15 | **Giulia DE TOGNI**

(University of Edinburgh, UK)

Feeling the Heart in the Robot: Will ‘Robotic Hearts’ replace Human Hearts in AI-driven Health and Social Care Systems?

Emotional robots are designed to affect the mental and emotional states of humans, as sociable machines that are equipped with computational systems designed to create a conduit for emotional ‘touch’ and intimacy with their users. I explore the impact of the human-machine relationship on traditional family and society structures, and question whether the development of robots to take over tasks currently performed by humans in caring roles may eventually disrupt social bonds (*kizuna*), leading to a more or less substantial reduction of human contact for those people being cared for. To prevent neglect and social isolation from happening, society will need to introduce new standards and laws that ensure that emotional robots do not replace, but only augment, human caregiving.

14:00–14:45 | **Anne ARONSSON**

(University of Zurich, Switzerland)

Social Robots in Elderly Care: The Turn toward Emotional Machines in Contemporary Japan

Japan has one of the highest life expectancies in the world and is undergoing a demographic transition that Western nations have yet to experience. Japanese authorities are hoping that robots will make up the difference and have adopted an agenda of introducing social robots to assist in the work of caring for the elderly. Japanese society is increasingly experiencing the phenomenon of people becoming emotionally attached to anthropomorphic machines like social robots. In exploring human engagement with social robots within the context of care, this presentation argues that introducing emotional technologies into the equation of care neither provides the same kind of experience as human-human interaction, nor is necessarily psychologically deceptive, but gives rise to something new.

14:45–15:30 | **Véronique AUBERGÉ**
(Laboratoire d'Informatique de Grenoble, France)
“Socio-Affective Glue Robots” and Elderly Isolated People



Paro © Intelligent System Co.

16:00–16:45 | **Erez GOLANI SOLOMON**
(Waseda University, Japan; Bezalel Academy of Arts & Design, Israel)
A Temple is a Machine for the Dead, and for the Living

This lecture explores a specific iteration of the current re-design of places for the dead in Japan through the Buddhist temple ‘Ruriko-in,’ which fuses technology and architecture in an automated cinerarium. The lecture focuses on the manner in which by virtue of its unique architectural form and its deployment of automated technologies, Ruriko-in remediates the place of the grave in urban Japan while working to resolve current social and cultural concerns regarding the relationship, or rather lack thereof, with the deceased. It is concerned also with how the temple negotiates the tensions and contradictions between the disparate modalities of logistics and mourning. It aims to show that through the temple space, these different modalities become not only enmeshed but also mutually reinforcing in a way that suggests a more complex relationship within society at large.

16:45–17:30 | *Panel Discussion*

Chair: Agnès Giard

Panelists: Paul Dumouchel, Kōhei Ogawa, Carman Ng (University of Bremen), Marc Steinberg, Hidenobu Sumioka

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Website: <https://geschkult.fu-berlin.de/emtech/>