



Chair Valeo at the Centre for French-Japanese Advanced Studies in Paris / Fondation France-Japon de l'EHESS workshop on

“New Technologies of Personal Mobility in Comparative Perspective” “国際比較から見たパーソナルモビリティの位置づけ”

Date and Time: Tuesday, January 16th, 2018, 2:00 p.m.-5:15 p.m.

Venue: EHESS (54 boulevard Raspail 75006 Paris, Seminar room 737, 7th floor)

Innovative pharmaceuticals and medical equipment in life innovation (LI) play a crucial role to improve quality of life, and these developments in the LI are expected to be thriving in the economy of the developed countries. New social services and manufacturing in the LI would contribute to establish sustainable social security for future super-aged society. Japanese government has set a target as approximately 50 trillion of market with 2.83 million of jobs in medical, nursing and health related service of the LI by 2020. In the promotion of the LI, it's vital to support research and development with feasibility studies for the development of personal mobility and assistive robotics for elderly in daily life, as well as to establish methodologies to implement innovative medical equipment and information technologies. The aim of this workshop is to discuss necessary factors to boost sustainable LI after sharing recent trends and views of LI researches in Japan and European union.

ライフ・イノベーションは、革新的な医薬品・医療機器等の創出により、生活の向上を実現するとともに、先進国経済において高い成長が期待される産業分野の一つである。同分野における新サービスや新産業の創造促進は、来たるべき超高齢化社会における持続可能な社会保障制度の構築に貢献すると考えられている。日本政府は 2020 年までに、医療、介護、健康関連サービスの需要に見合った産業の育成と雇用の創出による新規市場 50 兆円、新規雇用 284 万人を目標としている。ライフイノベーションの推進に向けて、介護ロボット・高齢者のためのパーソナル・モビリティ・生活支援ロボットの研究開発および実用化と共に、革新的医療機器及び情報通信技術を医療現場への導入につなげるための新たな医療技術の創出が求められている。本ワークショップでは、日欧研究者が一同に会することにより、同分野での最先端の研究・技術、知見等を共有すること、かつ持続可能な未来を可能にするための社会技術的条件について議論を行う。

PROGRAM

2:00 p.m.-2:10 p.m. Opening Remarks, by **Sébastien Lechevalier** (EHESS, President of the FFJ) and **Ken Daimaru** (EHESS)

2:10 p.m.-2:50 p.m. **Isabelle Ville** (EHESS)

“Contribution of participatory research to the development of a home rehabilitation tool: the Hodorev project”

2:50 p.m.-3:30 p.m. **Toshiaki Tanaka** (EHESS/2017 Valeo CEAJFP Fellow, University of Tokyo/ Hokkaido University of Science)

“The current issues and perspectives of assistive devices for the elderly and the disabled person.”

3:30 p.m.-3:40 p.m. Coffee Break

3:40 p.m.-4:20 p.m. **Tatsuto Suzuki** (University College London)

“An experimental approach to develop and improve personal mobility to be suitable for individual capability.”

4:20 p.m.-5:00 p.m. **Jan Veneman** (TECNALIA Research & Innovation)

“Developments in robot technology for personal mobility”

5:00 p.m.-5:15 p.m. Concluding Remarks, by **Reiko Akizuki** (Japan Agency for Medical Research and Development)

LIST OF SPEAKERS AND PAPERS

Isabelle Ville (EHESS) "Innovation policies at the digital age"

"Contribution of Participatory Research to the Development of a Home Rehabilitation Tool: the Hodorev Project "

Resume: The project in process is funded by the European Fund for Economic and Regional Development. It aims to develop a fun, easy to use and inexpensive mediation tool between the chronic low back pain patient at home and his therapist at the health center. This tool combines an exergame based on virtual reality technologies, a connected t-shirt and a multi-support social platform to recreate the link between patients and therapists and between the patients themselves. A participatory research approach includes, at all stages of the tool's development, users, patients and therapists. The presentation will describe the protocol and will present the first results.



Bio: **Isabelle Ville** is a sociologist of disability, research director at the French Institute of Health and Medical Research (Inserm) and director of studies at the EHESS where she is responsible for the Handicaps & Sociétés Program. Over the past five years, her research has focused on "issues of prenatal diagnosis in disability prevention", from the perspectives of health professionals and of women and couples. She is co-founder of European Journal of Disability Research, President of ALTER, European Society for Disability Research and co-author of an Introduction to Sociology of Disability (De Boeck, 2014).

Toshiaki Tanaka (EHESS, University of Tokyo, Hokkaido University of Science)

"Developments in robot technology for personal mobility"

Resume: This presentation focused on investigation of an innovative technology for sustainable mobility, particularly scientific technology that could improve mobility for the elderly and disabled, with respect to the following issues; 1) Survey exploring the characteristics of the elderly, 2) Survey of existing mobility technology, 3) Proposals for new technology.



Bio: **Toshiaki Tanaka** is Professor at the Dept. of Physical Therapy, Hokkaido University of Science, and Professor at the Institute of Gerontology, the University of Tokyo. He is also Physical therapist, Professional Ergonomist, member of the Board of Councilor at the Japanese Society for Fall Prevention, and Board of Director of the Japanese Society for Wellbeing Science and Assistive Technology. He is Valeo/CEAFJP Research Fellow at the EHESS from April 2017 to October 2017.

Tatsuto Suzuki (University College London)

"An Experimental Approach to Develop and Improve Personal Mobility to Be Suitable for Individual Capability"

Resume: Personal mobility (PM) has great potential to bring various options in transport systems for aged and disabled people in cities and rural areas, and the design of PMs needs to be customised to individual capability. The assessment of drivability, manoeuvrability, hardness, and user's experience of PMs with various environments, would be needed to secure safety. Dr Suzuki introduces an experimental approach for wheelchair cases.



Bio: Dr **Tatsuto Suzuki** is a research technician of the Pedestrian Accessibility Movement Environment Laboratory (PAMELA), University College London. His research interests are directed towards understanding human behaviours of aged and people with various disabilities in various environments, and developing assistive technologies to improve their quality of life.

Jan Veneman (TECNALIA Research & Innovation)

"Developments in robot technology for personal mobility"

Resume: This talk will provide an overview of recent development in robotic devices for personal mobility. The emphasis will lie on R&D developments in Europe, on exoskeletons and other wearable robots. These technologies often have been primarily developed for a medical context such as rehabilitation, but also other applications will be summarized. An outlook will be given on the underlying enabling technologies, the main applications as well on ethical, legal and societal aspects of such personal mobility robotics.

Bio: Jan Veneman works in the Medical Robotics Application Area of the Health Division, Tecnalía Research, and Innovation. Since 2013 he is coordinating the EC-FP7 consortium research Project BALANCE, on the development of a robotic exoskeleton with self-balancing control. He was elected Action Chair of COST Action 16116 on Wearable Robots and is active since 2012 as international expert in several ISO and IEC standardization working groups related to medical robotics, especially exoskeletons.



Sébastien Lechevalier (EHESS)

Bio: **Sébastien Lechevalier** is Professor at the EHESS and Founding President of the FFJ. Being an expert on the Japanese economy, he was previously a visiting researcher at the Maison Franco-Japonaise in Tokyo, Hitotsubashi University and the University of Tokyo. Investigation on the determinants and outcomes of innovation is one of his major research areas. His research on R&D collaboration in the field of robot technology in Japan has been published in leading journals such as *Research Policy*, *Economics of Innovation and New Technology*, or *Managerial and Decision Economics*. He is te co-editor (with Y. Fujigaki & S. Laugier) of *Innovation beyond technology: Science for society and interdisciplinary approaches* (Springer, forthcoming). He is also the co-author (with J. Suzuki) of the report commissioned by Valeo for the French-Japanese Club, "Comparing the Japanese and the French Systems of Innovation. Differences, similarities, and possible complementarities" (2017).



Ken Daimaru (EHESS)

Bio: **Ken Daimaru** is Postdoctoral researcher at the CEAFJP/EHESS. His researches have ranged from the social and cultural history of Japan, to the international circulation of medical experts and ideas between Europe and Asia in the twentieth centuries, focusing on the understanding of subjects such as the violence, the body, the suffering, the emotions. During 2011-2012, he wrote prolifically on question of health, social arrangements and emotional responses in the aftermath of 2011 Tohoku earthquake and tsunami.



Reiko Akizuki (Japan Agency for Medical Research and Development)

Bio: **Reiko Akizuki** is Director, Japan Agency for Medical Research and Development (AMED) London Office. She studied health policy and management and earned her Master of Science from the Harvard School of Public Health in 2010. She worked for the Ministry of Health, Labour and Welfare in Japan for more than 10 years, including cancer control, health insurance, industrial health. She joined the AMED in 2016 and moved to London to establish its international office in London in August 2016 (AMED London Office officially opened in February 2017).

