Artificial Intelligence and Health Care

16 - 17 September 2021
9.30 - 12.45 (France, Germany)
16.30 - 19.45 (Japan)
In English

Onsite at Campus Condorcet:
Maison des Sciences de l’Homme Paris Nord, cours des humanités 93300 Aubervilliers Auditorium

And Online

Registration: forms.gle/yWfJLP9vAq95mVQA6

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Abstract

Among all the potentialities of artificial intelligence (AI) but also the related fears and worries (e.g. privacy concerns, data integrity), the application of AI to healthcare is certainly the one that has attracted attention the most and is considered as the most promising in terms of innovation and transformation of our socio-economic systems but also of our intimate life.

To put it simply, artificial intelligence in healthcare is an overarching term used to describe the use of AI to mimic human cognition in the analysis, presentation, and comprehension of complex medical and health care data. Although the concrete applications of AI to healthcare are diverse (e.g. using AI to efficiently diagnose and reduce error; making more accurate and earlier cancer diagnosis with AI; developing new medicines with AI), it is possible to consider that the primary aim of health-related AI applications is to analyze relationships between prevention or treatment techniques and patient outcomes.

At the same time, despite or because of all these promises, AI in healthcare raises several unprecedented ethical concerns related to its practice such as data privacy, automation of jobs, and representation biases. In this context, it is important to mobilize researchers in social sciences in order to discuss, criticize and compare the uses of AI in healthcare, together with stakeholders, patients, doctors, policy makers, and the industry. Moreover, given the differences across countries, it is essential to adopt an international and comparative perspective. From the European viewpoint, it is particularly interesting to look at Japan, where the applications of AI to healthcare are numerous and promising, while the social and ethical debates on this are lively.

These are the major purposes of this event, which is the second symposium of the French-German Dialogue on Japan, a joint initiative by JDZB and FFJ. It will discuss the topic of AI and healthcare, by bringing together trilateral perspectives, research findings, and hands-on experience by panelists from academia and business.

The session 1 will deal with the discussion on the innovative character or expected innovations by AI in healthcare from the perspectives of health professionals, the private sector, and policy makers, while the session 2 will tackle the issues of social and ethical aspects of AI in healthcare.
Program

16 September 2021
9.30-12.45 (France, Germany) | 16.30-19.45 (Japan)

9.30 | Opening Remarks
Yuko Harayama (RIKEN, Executive Director), Sébastien Lechevalier (President of the Fondation France-Japon de l’EHESS), Werner Pascha (Mercator School of Management and Institute of East Asian Studies, University of Duisburg-Essen, Germany & JDZB)

Chair: Werner Pascha (Mercator School of Management and Institute of East Asian Studies, University of Duisburg-Essen, Germany & JDZB)

9.45 | Keynote Speech
Kazuhiro Sakurada (RIKEN)

Discussion / Q&A

10.30 | Coffee Break

Session 1: AI and innovation in health care: Perspectives of health professionals, the private sector, and policy makers

Discussant: Romain Huret (EHESS, head of the EHESS initiative on AI)

10.45 | Six presentations:
- Roland Eils (Founding Director of the BIH Digital Health Center, Berlin Institute of Health at Charité)
- Stefan Höcherl (Head of Strategy & European Affairs, gematik GmbH)
- Athanasios Kontopoulos (Computational & Data Science Global LabDirector, Air Liquide)
- Thomas Lefèvre (Researcher at IRIS and Hospital Practitioner)
- Atsushi Nakazawa (Kyoto University)
- Anne Schwerk (IT Project Manager Artificial Intelligence, CENTOGENE)

Discussion / Q&A
17 September 2021
9.30-12.45 (France, Germany) | 16.30-19.45 (Japan)

Chair: Sébastien Lechevalier (President of the Fondation France-Japon de l'EHESS)

9.30 | Keynote Speech
Vanessa Nurock (Associate Professor of Ethics and Political philosophy at Paris 8 University; UNESCO chair on AI)

Discussion / Q&A

10.15 | Coffee Break

Session 2: Social and ethical aspects of AI in health care
Discussant: Vanessa Nurock (Associate Professor of Ethics and Political philosophy at Paris 8 University; UNESCO chair on AI)

10.30 | Five presentations:
• Sébastien Dalgarrondo (Researcher at IRIS) and Boris Hauray (Researcher at IRIS)
• Jean-Louis Davet (Member of the board, Denos Group)
• Amelia Fiske (Senior Research Fellow, Institute for History and Ethics of Medicine, Technical University of Munich)
• Jiro Kokuryo (Professor, Keio University)

Discussion / Q&A

12.30 | Concluding Remarks
Phoebe Stella Holdgrün (Head of Project Management, JDZB)
Speaker: Sébastien Dalgalarrondo (Researcher at IRIS)

Sébastien Dalgalarrondo's research focuses on two areas. The first is concerned with the issue of drug innovation, health democracy and conflicts of interest in the health field (in collaboration with Boris Hauray/IRIS/INSERM). The second aims at elaborating a sociology of the promise of the optimal man (in collaboration with Tristan Fournier/IRIS/CNRS). After having analysed this injunction to optimise the self in the field of ageing and sports performance, he is now interested in the practices of enslavement as well as in the neo-primitivist discourses that invite us to turn to nature to rediscover our 'true nature'. This reflection on the optimisation of the self is also an opportunity to consider the way in which everyday life once again appears to be a place conducive to politicisation and the exploration of the possible.

Speaker: Jean-Louis Davet (Member of the board, Denos Group)

Jean-Louis Davet is an expert in insurance, data and AI for healthcare. He has 15 years of experience as CEO of health insurance and healthcare groups and as VP of strategy consultancy firms. He is board member of several international organizations dedicated to innovation, ethics and new technologies.

Speaker: Roland Eils (Founding Director of the BIH Digital Health Center, Berlin Institute of Health at Charité)

Roland Eils is the founding director of the Center for Digital Health at Berlin Institute of Health (Charité, Berlin) and the Health Data Science unit at the Medical Faculty of Heidelberg University. Before, he was founding and managing director of Heidelberg University’s Systems Biology Center BioQuant and coordinator of the cancer genomics program at the German Cancer Research Center. His group has delivered significant contributions to the field of systems biology and cancer genomics and is pioneering the field of digital health in research and care.

Speaker: Amelia Fiske (Senior Research Fellow, Institute for History and Ethics of Medicine, Technical University of Munich)

Amelia Fiske holds a PhD in Cultural Anthropology, with a specialization in Medical Anthropology, from the University of North Carolina at Chapel Hill. She situates her research at the intersection of anthropology, feminist science and technology studies, and medical ethics, crosscut by an interest in non-traditional and decolonial approaches to knowledge production. At the Institute for History and Ethics in Medicine, her work examines the integration of citizen science in biomedicine and biotechnology, ethical concerns surrounding artificial intelligence and robotics in clinical contexts, and the broader context of technology-driven changes in sharing practices, forms of scientific labor, and research organization in medicine and bioscience. This research has been supported by the Federal Ministry of Education and Research (BMBF). In addition, her research addresses the production of harm resulting from oil operations in the Ecuadorian Amazon, with a particular focus on matters of toxicity, exposure science, extractive politics, and environmental justice. Her doctoral thesis received the Manning Dissertation Award and the Honigmann Graduate Prize in Socio-Cultural Anthropology for 2016, and was supported by the Wenner-Gren Foundation, the National Science Foundation, the Social Science Research Council, the
Mitchell Foundation of Bowdoin College, the Institute for the Study of the Americas at the University of North Carolina, and the Tinker Foundation.

**Yuko Harayama (RIKEN, Executive Director)**

Dr. Yuko Harayama is Professor Emeritus at Tohoku University and Executive Director of RIKEN. She is also the former Executive Member of the Council for Science, Technology and Innovation, Cabinet Office of Japan. She is the former Deputy Director of the Directorate for Science, Technology and Innovation, OECD. She is a Legion D’Honneur recipient (Chevalier), and was awarded honorary doctorate from the University of Neuchâtel. Previously, she was Professor in the Department of Management Science and Technology at the Graduate School of Engineering of Tohoku University. She holds a Ph.D. in education sciences and a Ph.D. in economics, both from the University of Geneva.

**Boris Hauray (Researcher at IRIS)**

Boris Hauray is a sociologist, research fellow at the National Institute for Health and Medical Research (Inserm). His research investigates the social and political dimensions of medical innovations. His work has focused on medicines licensing, the regulation of embryo research, and aging (anti-aging therapies, the experience of aging, treatments for Alzheimer, social robots). He is the coordinator of a new collaborative research program (IRIS-CERMES3-SAGE) on conflicts of interests in the field of medicines (funding: ANR).

**Stefan Höcherl (Head of Strategy & European Affairs, gematik GmbH)**

Stefan Höcherl is Head of Strategy & European Affairs bei gematik GmbH. The aim of gematik is to ensure the digitization of the German healthcare system through a valued telematics infrastructure, which is the preferred information, communication and security infrastructure of the German healthcare system with all technical and organizational components.

**Phoebe Stella Holdgrün (Head of Project Management, JDZB)**

Phoebe Holdgrün is Head of Project Management at JDZB. She holds a PhD in Japanese Studies from the Heinrich Heine University Düsseldorf. In her dissertation project, she analysed implementation processes of gender equality policies in Japan on a regional level. Since January 2012, she is a Senior Research Fellow at the DIJ. Her research focuses on the effects of political participation on subjective feelings of well-being and happiness. She is interested in gender and politics, multilevel governance and decentralization.
Jiro Kokuryo (Professor, Keio University)

Professor Jiro Kokuryo is concurrently a professor at the Faculty of Policy Management. He joined Keio in 1993 as an associate professor at the Graduate School of Business Administration, where he was appointed professor in 2000. He served as Executive Director of the Keio Research Institute at SFC (2005-2009) and Dean of the Faculty of Policy Management (2009-2013), Vice-President for International Collaboration and Education in 2013-2021. He graduated from the University of Tokyo in 1982 and acquired a Doctor of Business Administration (1992) from Harvard Business School while an employee of Nippon Telegraph and Telephone Corporation (1982-1993). His major publications in Japanese include Open Architecture Strategy, Diamond Inc. (1999), and Business Strategy in an Onymous Economy, Nikkei Publishing Inc. (2013).

Athanasios Kontopoulos (Computational & Data Science Global LabDirector, Air Liquide)

Athanasios Kontopoulos currently holds the position of “Computational & Data Science Scientific Director”. He is a Chemical Engineer with a PhD in Applied Sciences and Math. He is with Air Liquide since 1995. He found several ways to express his passion for simulation, applied math and data science in both R&D and Operations. In particular, he is a pioneer in the development of predictive control and innovative real-time optimization systems. He presented the first roadmap of big data for Air Liquide and set up the first teams of data scientists within R&D, in 3 continents. He introduced artificial intelligence, through proofs of concept and alliances with innovative companies. He recently launched the “data and decision sciences lab” (d2-lab) initiative in Air Liquide, a network of experts and practitioners, to reach scientific excellence in these areas. Athanasios Kontopoulos is an Air Liquide International Fellow. He is a great fan of "Augmented Intelligence".

Sébastien Lechevalier (President of the Fondation France-Japon de l'EHESS)

Sébastien Lechevalier is an economist and a professor at the School of Advanced Studies in the Social Sciences, Paris (EHESS). He is specialised in Japanese economy and Asian capitalisms. He is also the founder and president of the Fondation France Japon de l’EHESS (FFJ). He has been a visiting professor at various universities in Japan, including Tokyo University, Kyoto University, Hitotsubashi University, Waseda University and Doshisha University.

Thomas Lefèvre (Researcher at IRIS and Hospital Practitioner)

Thomas Lefèvre conducts research at the intersection of forensic and social medicine, public health, and applied mathematics. He uses classical quantitative methods (epidemiology, statistics), non classical methods (artificial intelligence, big data) and mixed quali/quant methods, with the help of interdisciplinary collaborations and teams (anthropologist, sociologist, jurist, data scientist, epidemiologists, physicians). Its work is structured around two main areas: the links between violence, health and societies (ViS3), and the uses of digital technology in health, law and public institutions.
Atsushi Nakazawa (Kyoto University)

Atsushi Nakazawa is an associate professor in the Department of Informatics at the Kyoto University. He received his doctorate from the Osaka University in 2001 in Systems Engineering. Afterward, he worked in Institute of Industrial Science, University of Tokyo and then in Cybermedia Center, Osaka University. From 2013, he joined the Kyoto University. During 2007 to 2008, he studied in Georgia Institute of Technology (GaTech), GVU Center, as a visiting researcher, and worked with Professor James M. Rehg and professor Irfan Essa. In 2010, he was awarded the Precursory Research for Embryonic Science and Technology (PRESTO), Japan Science and Technology Agency (JST) and become a researcher of this program. From Oct. 2017, he becomes a program investigator (PI) of the JST CREST project "Computational and cognitive neuroscientific approaches for understanding the tender care". His research interests are in human behavior/mental analysis using computer vision, eye tracking, eye imaging and motion capture systems. Dr. Nakazawa got the best paper award in International Conf. on Virtual Systems & Multimedia (VSMM2004) and Japan Robotics Society (RSJ). In 2016, his paper is selected as a 'Spotlight on Optics' from Optics Society America (OSA). His recent interest are the corneal reflection and bio-signal analysis for affective computing.

Vanessa Nurock (Associate Professor of Ethics and Political philosophy at Paris 8 University, UNESCO chair on AI)

Vanessa Nurock is a researcher at LEGS (Laboratoire d’Études de Genre et de Sexualité, Laboratory for Gender and Sexuality Studies) and an associate professor of political theory and ethics at the Université Paris 8. Her work is situated at the intersection of ethical, political, and scientific issues, with a particular emphasis on questions of gender and education. She has worked on topics such as justice and care, animal ethics, nanotechnology, cybergenetics, and neuroethics, and her current research focuses on the ethical and political problems raised by artificial intelligence. Her published works include Sommes-nous naturellement moraux ? (PUF, 2011), Rawls, pour une démocratie juste (Michalon, 2008; Spanish translation Poder Judicial de la Ciudad de Buenos Aires, 2015), and she edited L’intelligence artificielle: enjeux éthiques et politiques (Cités 2019/4, PUF). She also served as the scientific curator for the exhibit “Anatomies de l’étrange” (“Anatomies of the Strange”) held at the Musée d’Histoire naturelle of Lille in 2012.

Werner Pascha (Mercator School of Management and Institute of East Asian Studies, University of Duisburg-Essen, Germany & JDZB)

Werner Pascha is JDZB Vice President, Professor emeritus for East Asian Economic Studies / Japan and Korea, Institute of East Asian Studies (IN-EAST) and Mercator School of Management, University of Duisburg-Essen, Duisburg.

Kazuhiro Sakurada (RIKEN)

Karuhiro Sakurada is Project Leader of the Advanced Data Science Project: Data-driven medical science has been advanced as supervised learning to combine prior knowledge into learning algorithms, divided into two major paradigms of AI, "symbolic processing and pattern recognition". This project will develop the Platform (PF) in Phase I, by collaborating with Data Folders (DHs) of university hospitals and other institutions. The next trend of data-driven medical science will be the integration of the two paradigms (horizontal integration Phase II) and the integration of cyber (symbolic processing and pattern recognition) and physical (real-world problems) (vertical integration Phase III). Toward of the realization of Phase II and Phase III, we will develop a highly versatile and original middleware-based PF with built-in reliability guarantees for inference.
Anne Schwerk (IT Project Manager Artificial Intelligence, CENTOGENE)

Dr. Anne Schwerk works as a project manager at the intersection of AI and healthcare, with a focus on precision medicine, diagnostic decision support and multi-modal predictive modelling. Before her work within the Intelligent Analytics of Massive Data Group at the German Research Center for Artificial Intelligence, she worked at TNO in the Netherlands and obtained her Ph.D. in the field of neurosciences at the Charité, Berlin.