



## CUHK Centre for Bioethics Webinar Series

### Seminar on “AI in Future Healthcare – Considering the Moral Dimension”

14 April 2021 (Wed)

4:00 p.m. – 5:45 p.m. (Hong Kong/Taiwan Time) /  
6:00 p.m. – 7:45 p.m. (Melbourne Time) /  
9:00 a.m. – 10:45 a.m. (UK Time) /  
10:00 a.m. – 11:45 a.m. (Germany Time)

Online via Zoom

#### **Abstracts & Biographies of Speakers/Discussants**

#### **Dr. Sarah CHAN**

#### **“To Err Is Human? Affective Dimensions of AI in the Clinic”**

‘Artificial intelligence’, or AI, is being heralded as one of the next areas of near-future technology that will produce transformative effects for the field of health care. Amongst these promised transformations is the potential for AI to produce more accurate predictions, precise diagnoses and personalised treatments. While some more speculative futuristic visions might suggest that AI will replace human doctors entirely, the use of AI to assist in diagnosis and treatment decisions is a more likely application that is already gaining traction in various health care contexts, such as digital pathology. Depending on how it is implemented and realised, however, AI-assisted medicine may introduce a third ‘moral element’ into the doctor-patient relationship. This in turn may alter the process of medical decision-making and communication, and the ways in which responsibility and agency is understood and experienced with respect to outcomes.

In this paper, I explore how the affective aspects of AI in health care intersect with human factors within the doctor-patient relationship, such as shared embodiment and fallibility. I argue that these aspects of human medicine may provide space to negotiate different narratives around decision-making, responsibility and outcomes, particularly in the case of undesired or adverse outcomes; and that we should therefore attend to the potential of AI either to disrupt or enable this via its affective dimensions.

Sarah Chan is a Reader in Bioethics at the Usher Institute, University of Edinburgh; she is currently a Deputy Director of the Mason Institute for Medicine, Life Sciences and Law, and an Associate Director of the Centre for Biomedicine, Self and Society. Previously, from 2005 to 2015, she was a Research Fellow in Bioethics at the University of Manchester, first at the Centre for Social Ethics and Policy and from 2008 the Institute for Science Ethics and Innovation. Sarah’s research focuses on the ethics of new biomedical technologies, including gene therapy and genetic modification; stem cell and embryo research; reproductive medicine; synthetic biology; and human and animal enhancement. Her current work draws on these interests to explore the ethics of emerging modes of biomedicine at the interface of health care research, medical treatment and consumer medicine, including population-level health and genetic data research; the use of human biomaterials in both research and treatment; and access to experimental treatments and medical innovation.



## **Prof. Robert SPARROW**

### **“Responsibility for Healthcare Outcomes in the Age of Medical AI”**

Increased uptake of AI in healthcare will, almost inevitably, lead to dramatic shifts in the way we think about and distribute responsibility for medical decisions and healthcare outcomes. In this presentation, I try to anticipate some of these shifts. I will suggest that the role, and responsibilities, of physicians will need to change, if machines can do a better job of (some) tasks that human beings currently perform. The companies that manufacture and distribute healthcare applications will be morally responsible for the advice that they provide and — perhaps — for the consequences of users acting on advice. At the same time, by providing individuals with more information about their health and more opportunities to receive advice about the health implications of their lifestyle choices AI, Big Data, and (especially) mHealth shifts responsibility for healthcare outcomes onto individuals. By vastly increasing the amount of data collected about individuals’ activities, AI and Big Data risk transforming everything into a “symptom” and, thus, overdiagnosis of conditions, with concomitant negative outcomes for patients and healthcare budgets. The possibility of such perverse consequences of the adoption of AI needs to be considered by researchers and by policy makers.

Robert Sparrow is a Professor in the Philosophy Program, and a Chief Investigator in the Australian Research Council Centre of Excellence for Electromaterials Science, at Monash University, where he works on ethical issues raised by new technologies. He has been an ARC Future Fellow, a Japanese Society for the Promotion of Science Visiting Fellow at Kyoto University, a Visiting Fellow in the CUHK Centre for Bioethics, a Visiting Fellow at the Centre for Biomedical Ethics at the National University of Singapore and a Visiting Fellow at Carnegie Mellon University. He has published widely on the ethics of robotics, AI, and preimplantation genetic diagnosis. He is a co-chair of the IEEE Technical Committee on Robot Ethics and was one of the founding members of the International Committee for Robot Arms Control.

## **Prof. Daniel Fu-Chang TSAI**

Daniel Fu-Chang Tsai is a family physician and bioethicist. He graduated from National Taiwan University College of Medicine in 1989 and earned his PhD in bioethics from the University of Manchester, U.K. in 1999. He is Professor in the Graduate Institute of Medical Education & Bioethics, National Taiwan University College of Medicine. He is attending physician in the Department of Medical Research and chairman of the research ethics committee at National Taiwan University Hospital, and Director of the Center for Biomedical Ethics at National Taiwan University. He is formerly the Vice President of the International Association of Bioethics (2016-7) and currently the President of Taiwan Association of Institutional Review Boards (2018~21).



## **Dr. Daniel TIGARD**

Daniel Tigard is a Senior Research Associate in the Institute for History and Ethics of Medicine at the Technical University of Munich. His published work addresses topics in ethical theory, such as moral conflicts, moral agency and responsibility, with applications to issues in bioethics. More recently, he works on ethical issues in emerging technology, particularly AI and robotics. Along with members of the Munich School of Robotics and Machine Intelligence and the Munich Center for Technology and Society, Dr. Tigard works on the project *Responsible Robotics*, which aims to “embed” ethics into AI and robotic technologies, particularly for healthcare settings.

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