iGHP Special Lecture Series

"When Machines Become Doctors: The Dawn of an AI-Powered Diagnostic System and Its Implication for the Future"

In the conventional wisdom, we all understood medical AI devices to be a tool used under a doctor's supervision. However, IDx-DR*, an autonomous AI diagnostic system that was first of its kind to be approved by Food and Drug Administration (FDA), can detect and diagnose diabetic retinopathy without a doctor. There is a possibility that the FDA-approval of such a system may change the healthcare industry.

Does the FDA's authorization suggest that we are in the new era of autonomous AI diagnostic system without a doctor? Join us for a talk by leading players of the first-ever FDA approved diagnostic system and its implications of for the future health care systems.

*IDx-DR analyzes image of the retina and detects signs of diabetic retinopathy. The machine also provides instant results of either a detection of signs of diabetic retinopathy and a recommendation for referral to an ophthalmologist or a lack of sign of diabetic retinopathy and recommendation for a follow-up in twelve months.

1. Seminar Details

Date & Time	Monday, October 22, 2018 16:30-18:00
Topic	When Machines Become Doctors: The Dawn of an AI-Powered Diagnostic System and Its Implication for the Future
Venue	Institute for Global Health Policy Research, Bureau of International Cooperation (Ground floor, Training Center Building), National Center for Global Health and Medicine, Tokyo
Access	http://kyokuhp.ncgm.go.jp/eng/aboutus/access.html
Language	English only (No Japanese interpretation will be available)

Seating capacity	80
Organizer	"Wellbeing Research Campus: Creating new values through technological and social innovation" (Core institution; Keio University) in cooperation with Institute for Global Health Policy Research (iGHP), Bureau of International Cooperation, NCGM and Topcon Corporation

2. Agenda (tentative)

- Opening Remarks : Kenji Shibuya, Director, iGHP, NCGM

- Michael Abramoff, Founder and CEO of IDx “IDx: Story to historic moment of FDA’s authorization and future”

- Mr. Fumio Ohue (Managing Executive Officer, General Manager of Eye Care Business Division, Topcon Corporation)
  “The Brilliance of Topcon’s ‘Health Care Through The Eye Strategy,’ the Japanese technology that made IDx-DR possible”

- Mr. Ushio Usami (Country leader – Japan, Worldwide Public Sector, Amazon Web Services Japan K.K.)
  “New generation health care driven by Cloud Computing”

- Discussion Q&A
  Moderator: Hiroaki Miyata, Director, Department of Global Health Systems and Innovation (iGHP), NCGM

- Closing

Report on "When Machines Become Doctors: The Dawn of an AI-Powered Diagnostic System and Its Implication for the Future" (Oct 22, 2018)

On Oct 22, 2018, we, iGHP, had the honor to host Prof. Michael Abramoff, Founder and CEO of IDx; Mr. Fumio Ohue, Managing Executive Officer, General Manager of Eye Care Business Division, Topcon Corporation; and Mr. Ushio Usami, Country leader – Japan, Worldwide Public Sector, Amazon Web Services Japan K.K..

This seminar provided a talk by leading actors of the first-ever FDA approved AI automated diagnostic system, IDx-DR*, and its implications of for the future health care systems.

Prof. Abramoff presented the background of this significant breakthrough. He reflected back how he had focused on the device's usability, quality and precision during the development phase, while also exploring ways to deliver the device to be used as a diagnostic tool at the primary care setting. This innovation comes from fundus camera developed by Topcon Corporation, which has been the leader in advanced eye care technology. Mr. Ohue described the business strategy and development for networking, while Mr. Ushio explained what cloud computing drives to health care and its future aspect. These collaboration brings social value and cost benefit in health care.

In the panel discussion, Prof. Miyata, as a moderator, asked the panelists whether the FDA's authorization suggest that we are in the new era of autonomous AI diagnostic system without a doctor. The appeal of cost effectiveness, especially for preventative medicine, was stressed not only for the medical industry but also for the whole society. Prof Miyata also stressed that doctors are empowered rather than stripped of their powers with the assistance of such technology and that one of the reasons FDA may have approved this AI innovation is because this business model empowers family physicians.

97 participants in various fields attended and we explored the trend of advanced data science on next AI generation and innovation as value co-creation.

(*) IDx-DR analyzes image of the retina and detects signs of diabetic retinopathy. The machine also provides instant results of either a detection of signs of diabetic retinopathy and a recommendation for referral to an ophthalmologist or a lack of sign of diabetic retinopathy and recommendation for a follow-up in twelve months.