Technology to support the sustainability of health and social care systems

FORUM Annual Lecture 2020

Keynote by Professor John A Rogers
Louis Simpson and Kimberly Querrey Professor of Materials Science and Engineering, Biomedical Engineering and Medicine, Northwestern University

15.00 to 17.00, Monday 12 October 2020

The Academy *of* Medical Sciences

FORUM

Welcome

Welcome to the FORUM Annual Lecture 2020

To watch join lecture, please register at:
https://acmedsci.zoom.us/webinar/register/WN_Ktla7DRjRtaofidIiHvKdw

Please join in the discussion on Twitter using:

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FORUM
Linking life science sectors

"The Academy's FORUM provides an independent platform where stakeholders from across the life sciences sector can connect and take forward national discussions on scientific opportunities and technology trends"

Professor Sir John Bell GBE FRS HonFREng FMedSci, Regius Professor of Medicine, University of Oxford

The Academy's FORUM was established to catalyse connections across industry, academia and the wider healthcare sector.

Through the FORUM we aim to promote:

- **Sustainable translation of research outputs into health and wealth gains.**

- **A vibrant innovation ecosystem.**

- **A strong UK industry.**

The Academy's FORUM Annual Lecture recognises a key individual working at the interface of academia, industry and healthcare and provides an opportunity to promote discussion amongst FORUM members, Academy Fellows, invited guests and members of the public.

The success of the FORUM relies on supporter organisations who make an annual donation. These donations enable the Academy to deliver its FORUM programme of high profile meetings, including the Annual Lecture.

To discuss how your organisation can join the network of FORUM supporters, please contact forum@acmedsci.ac.uk.

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Agenda

15:00-15:05	**Welcome and introductions** *Professor Sir Robert Lechler PMedSci (Chair), President, Academy of Medical Sciences*
15:05-15:45	**Keynote: Technology to support the sustainability of health and social care systems** ***Professor John A. Rogers**, Louis Simpson and Kimberly Querrey Professor of Materials Science and Engineering, Biomedical Engineering and Medicine, Northwestern University*
15:45-16:05	**Panellist introductions** • **Dr Pearse Keane**, *UKRI Future Leaders Fellow, Institute of Ophthalmology, University College London and Consultant Ophthalmologist, Moorfields Eye Hospital* • **Dr Keith Grimes**, *Medical Director, Babylon Health* • **Dr Karyn Morrissey**, *Senior Lecturer in the European Centre for Environment and Human Health, University of Exeter*
16:05-16:45	**Panel discussion and Q&A** *Chaired by Professor Sir Robert Lechler PMedSci, President, Academy of Medical Sciences*
16:45-16:50	**Closing comments from the President** *Professor Sir Robert Lechler PMedSci, President, Academy of Medical Sciences*

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Biographies

Professor Sir Robert Lechler PMedSci

President, Academy of Medical Sciences and
Emeritus Senior Vice President (Health), King's
College London

Biography

Sir Robert Lechler has recently stepped down from his roles as Senior
Vice-President (Health) at King's College London and Executive Director
of King's Health Partners Academic Health Sciences Centre. He is
currently Emeritus Senior Vice President (Health) at King's College
London, President of the Academy of Medical Sciences, Executive
Director on the Board of Quell Therapeutics Limited and Senior Medical
Adviser to Babylon Health.

He is a strong advocate of the Academic Health Science Centre model of
university-healthcare partnerships. His clinical and research career have
been focused on the pursuit of clinical transplantation tolerance. He
worked in in vitro and in vivo rodent models and recently has helped to
define biomarkers of clinical tolerance. This work has led to first in man
trials of cell therapy to promote immune tolerance in recipients of kidney
and liver organ transplants. In 2012 Robert was awarded a Knighthood
in the Queen's Birthday honours for Services to Academic Medicine and
in 2015 was elected as the President of the UK Academy of Medical
Sciences. In addition, Robert is a Founding Board Member of MedCity,
was a Board Member of the Crick Institute, sits on the HCA Healthcare
Advisory Board, is a member of the Prime Minister's Council for Science
and Technology

Biographies

Professor John A. Rogers

Louis Simpson and Kimberly Querrey Professor
of Materials Science and Engineering,
Biomedical Engineering and Medicine,
Northwestern University

Biography

Professor John A. Rogers obtained BA and BS degrees in chemistry and in physics from the University of Texas, Austin, in 1989. From MIT, he received SM degrees in physics and in chemistry in 1992 and the PhD degree in physical chemistry in 1995. From 1995 to 1997, Rogers was a Junior Fellow in the Harvard University Society of Fellows. He joined Bell Laboratories as a Member of Technical Staff in the Condensed Matter Physics Research Department in 1997, and served as Director of this department from the end of 2000 to 2002.

He then spent thirteen years on the faculty at University of Illinois, most recently as the Swanlund Chair Professor and Director of the Seitz Materials Research Laboratory. In the Fall of 2016, he joined Northwestern University as the Louis Simpson and Kimberly Querrey Professor of Materials Science and Engineering, Biomedical Engineering and Medicine, with affiliate appointments in Mechanical Engineering, Electrical and Computer Engineering and Chemistry, where he is also Director of the recently endowed Institute for Bioelectronics.

He has won many awards for his research, including a MacArthur Fellowship, the Lemelson-MIT Prize, the Smithsonian Award for American Ingenuity in the Physical Sciences and the Benjamin Franklin Medal.

He is a member of all three US national academies – the National Academy of Science, the National Academy of Engineering and the National Academy of Medicine. He is also a member of the American Academy of Arts and Sciences.

Biographies

Dr Pearse Keane

UKRI Future Leaders Fellow, Consultant Ophthalmologist, Moorfields Eye Hospital and Associate Professor, UCL Institute of Ophthalmology

Biography

Pearse Keane is a consultant ophthalmologist at Moorfields Eye Hospital, London and an associate professor at UCL Institute of Ophthalmology. He is originally from Ireland and received his medical degree from University College Dublin (UCD), graduating in 2002.

In 2016, he initiated a formal collaboration between Moorfields Eye Hospital and Google DeepMind, with the aim of developing artificial intelligence (AI) algorithms for the earlier detection and treatment of retinal disease. In August 2018, the first results of this collaboration were published in the journal, Nature Medicine. In May 2020, he jointly led work, again published in Nature Medicine, to develop an early warning system for age-related macular degeneration (AMD), by far the commonest cause of blindness in many countries.

In October 2019, he was included on the Evening Standard Progress1000 list of most influential Londoners and in June 2020, he was profiled in The Economist.

In 2020, he was listed on the "The Power List" by The Ophthalmologist magazine, a ranking of the Top 100 most influential people in the world of ophthalmology.

Biographies

Dr Keith Grimes

Clinical Digital Health & Innovation Director, UK & EMEA, Babylon Health
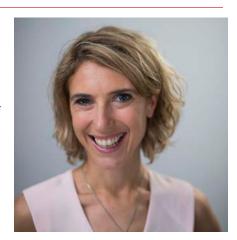
Biography

Dr Keith Grimes is Clinical Digital Health & Innovation Director at Babylon Health. He is an NHS GP with 20 years of experience on the front line of Primary Care, and the founder of VR Doctors, an online forum supporting the Immersive Healthtech community.

A keen advocate of the power of technology to deliver quality improvement globally, he has delivered award winning Digital Medicine projects, as well as pioneering work in Clinical VR and Artificial Intelligence.

He was an expert panellist on the Topol Review, an independent report on preparing the healthcare workforce to deliver the digital future, and leads the Babylon Clinical AI Fellow Programme.

Biographies

Dr Karyn Morrissey

Senior Lecturer in the European Centre for Environment and Human Health, University of Exeter

Biography

An economist by background, Karyn Morrissey is an associate professor whose research focuses on understanding the impact of socio-economic and environmental inequalities on health outcomes and the role digital technology can play in creating a more sustainable and equitable society.

Karyn is the principle investigator of the Smartline project, a £3 million ERDF funded research project that seeks to understand the role of digital technology in addressing health and wellbeing in low income setting.

Karyn currently has 60+ publications in top Medical (Lancet); Health (Social Science and Medicine, BMJ Open) and Digital Health journals.

FORUM programme 2020

13-14 February 2020	**Healthy ageing conference** The conference, held in partnership with the Royal Society, will explored recent scientific advances spanning the breadth ageing research from basic biology through to novel therapies and other interventions. The meeting will also addressed the societal impact and infrastructure required to meet the needs of our ageing population – considering the implications of this for policy and our health and social care system.
19 May	**Patient and public involvement in research during the COVID-19 pandemic** This workshop, held in partnership with the ABPI, AMRC and NIHR, examined the impact of the COVID-19 pandemic on public involvement in research, and what actions the wider life sciences community needs to take support public involvement and strengthen its role during and beyond the pandemic.
12 October	**2020 FORUM Annual Lecture** The 2020 FORUM Annual Lecture will be given by Dr John Rogers, Northwestern University, on 'Technology to support the sustainability of health and social care systems'. This will be followed by a panel discussion.
19 and 22 October	**Multimorbidity: Cross-sector opportunities for developing new interventions for patients with multiple long-term conditions** In partnership with the MRC and NIHR, this workshop will examine how multimorbidity approaches can be incorporated into the development of interventions, with a focus on big data and disease clustering, mechanisms underlying multimorbidities and making clinical trials more relevant.
11 December	**Precision prevention for modifiable health risks** This FORUM workshop will examine the suite of emerging tools for predicting an individual's risk, from 'omics to lifestyle and environmental data, and look and how these tools might be evaluated to support their uptake into the healthcare system.

Plus other events in scoping – please ask us if interested!

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