EDDC Experimental Drug Development Centre

presents

DRUG DISCOVERY: PAST, PRESENT, FUTURE

19 July 2024 | 1:00PM– 4:00PM

Matrix Auditorium, L2, Matrix Building, Biopolis

EDDC ANNUAL DRUG DISCOVERY SYMPOSIUM 2024

PROGRAMME BOOKLET

OUR SPEAKERS

Prof Damian O'Connell

Prof William Chin

Prof Jackie Hunter

Dr Andreas Wallnöfer

Prof Alex Matter

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EVENT SCHEDULE

Registration starts at 1pm	
1:30 – 1:40pm	**Welcome speech** **Prof. Damian O'Connell, M.D., Ph.D.** *Chief Executive Officer, Experimental Drug Development Centre*
1:40 – 2:00pm	**Evolution of Drug Discovery – Finding Drugs Then and Now** **Prof. William Chin** *Bertarelli Professor of Translational Medical Science and Medicine Emeritus, Harvard Medical School*
2:00 – 2:20pm	**How Bigger Data, Better Questions and AI Driven Tools are Changing Drug Discovery and Development** **Prof. Jackie Hunter, CBE** *Chief Executive Officer, OIPharma Partners Ltd; Chair, Boards of Biocortex Ltd, Brainomix Ltd and Stevenage Bioscience Catalyst*
2:20 – 2:40pm	**A Short Guidance on Success Factors in Drug Development** **Dr. Andreas Wallnöfer** *Partner, Jeito Capital*
2:40 – 3:00pm	**Challenges for Global Healthcare** **Prof. Alex Matter, M.D., FAACR** *Senior Fellow, A*STAR; Adjunct Professor, Duke-NUS (Emerging Infectious Diseases)*
3:10 – 3:50pm	**Fireside Chat** *Moderated by Prof. Damian O'Connell*
3:50 – 4:00pm	**Closing Speech** *by Prof Tan Sze Wee, Assistant Chief Executive, Biomedical Research Council, A*STAR*
4pm onwards	**Networking session**

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TALK SYNOPSES

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EVOLUTION OF DRUG DISCOVERY: FINDING DRUGS THEN AND NOW

Synopsis

Discovering medicines, from aspirin to modern cancer treatments, has always been challenging due to the complexity of human disease. The goal remains though to find safe, effective treatments for unmet needs. Recent successes have used high-throughput screening and rational design of small organic chemicals. New therapeutic modalities will also include gene, nucleic acid, and cell therapies, antibodies and peptides.

With these approaches, along with advances in multiomics analyses, biomarkers, and translational and regulatory science and AI and ML, we hope to fulfill the long-held promise of precision medicine. This journey will be illustrated with examples, highlighting progress from past to future.

Prof William Chin

Bertarelli Professor of Translational Medical Science and Medicine Emeritus, Harvard Medical School

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HOW BIGGER DATA, BETTER QUESTIONS AND AI-DRIVEN TOOLS ARE CHANGING DRUG DISCOVERY AND DEVELOPMENT

Synopsis

In the 1980s and 1990s the data available for drug discovery were limited and siloed. Journals were not digital, genomics was in its infancy and scientists did not have the tools at their disposal to interrogate even internal data adequately. This limited the questions that could be asked in terms of identifying the right target, the right drug or the right patient.

Today we have the tools to ask the right questions and the volume of data to enable us to better identify the appropriate treatments for many diseases. In the future, better integration of data at both multimodal and multiscale levels will enable a shift to truly personalized medicines.

Prof Jackie Hunter

CEO, OIPharma Partners Ltd;
Chair, Boards of Biocortex Ltd, Brainomix Ltd and Stevenage Bioscience Catalyst

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A SHORT GUIDANCE ON SUCCESS FACTORS IN DRUG DEVELOPMENT

Synopsis

Strong science is at the core of every important medicine. The art of drug development is to reveal the medicine within a molecule. This includes the translation research into the clinical setting and effective clinical trial designs. Drug development requires a product vision and insights in patient needs. Nevertheless, often the initial plan has to be adjusted based on expected and unexpected data.

Many of the biggest, commercially successful products do only exist for the quality of the people and their decision making to identify the optimal clinical utility … and on the other hand many effective drugs were never developed. My talk will reflect some practical examples and observations in R&D over the years.

Dr Andreas Wallnöfer

Partner, Jeito Capital

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THE CHALLENGES FOR GLOBAL HEALTHCARE

Synopsis

This brief discussion shall consider three questions:

1. How good is global healthcare today?
2. Looking back at major disease groups: how well did we do in major disease groups? and
3. Looking forward: What will be the challenges in 2050 and in 2100?

Predictions regarding the impact of major diseases on mortality and morbidity of the global population can be made with reasonable accuracy thanks to the diligent work of many international organisations (UNCTAD, World Bank, WHO, IHME, IPCC and others). Five factors are major determinants: Population dynamics (1), the morbidity and mortality/life expectancy in various countries (2), poverty and income levels (3), wars, conflicts, migration, terrorism (4), and finally the rate and impact of innovation (5).

On top of these well-known hurdles, three quite heterogeneous megatrends shall impact current healthcare at a global level: climate change, artificial intelligence, and obesity. The world will be facing over the next 75 years a series of unprecedented challenges which will require cooperation at the global level, a willingness to tackle huge obstacles and unparalleled ingenuity.

Prof Alex Matter

*Senior Fellow, A*STAR; Adjunct Professor, Duke-NUS*
(Emerging Infectious Diseases)

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BIOGRAPHIES

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About Prof Damian O'Connell, M.D., Ph.D.

Chief Executive Officer, Experimental Drug Development Centre

Prof. Damian O'Connell heads EDDC as Chief Executive Officer (CEO). He also holds additional positions including Adjunct Professor at the University College Cork, Ireland, Member of the Advisory Board SingHealth Investigational Medicine Unit in Singapore, and a board member of the INFANT research centre in Ireland. In addition, he is a member of several medical societies. These include the British Pharmacological Society, the Drug Safety Executive Council (DSEC), the American Society for Clinical Pharmacology and Therapeutics, the American College of Clinical Pharmacology, the American Society of Pharmacometrics, the Irish Association of Pharmacologists, the Irish Cardiac Society, and the British Hypertension Society.

Having started his career in the Industry in 1998, Prof. O'Connell has previously has held senior positions within Bayer, Pfizer Research & Development, Parke Davis, Elan Pharmaceuticals & Neurex. Apart from his extensive experience in the Industry, he has also held positions in academia. Prof. O'Connell has been a Medical Faculty member of The University of Virginia Health Sciences Centre, and Professor in the Clinical Pharmacology & Therapeutics Department at University College Cork, Ireland.

Prof. Damian O'Connell received both his M.D. and Ph.D. from the National University of Ireland. He is also a Fellow of both The Royal Society of Medicine and The Royal Academy of Medicine (Ireland).

About Prof William Chin

Bertarelli Professor of Translational Medical Science and Medicine Emeritus, Harvard Medical School

Professor William Chin is Bertarelli Professor of Translational Medical Science and Medicine Emeritus, Harvard Medical School (HMS). He is also Executive Vice President for Clinical and Translational Science and former Chief Medical Officer (CMO), Frequency Therapeutics, and senior advisor to a number of other biotech companies.

He is also the former Executive Vice President for Science and Regulatory Advocacy and CMO at PhRMA where he led PhRMA's continuing efforts in science and regulatory advocacy in the drug discovery and development ecosystem, retiring January 1, 2018. He was also the Executive Dean for Research, Bertarelli Professor of Translational Medical Science and Professor of Medicine at HMS from 2010 to 2013. In this role, Professor Chin spearheaded efforts to design and implement the vision for research at HMS, with special emphasis on interdisciplinary and translational research that crosses departmental and institutional boundaries. Prior to this position, Professor Chin was at Eli Lilly and Company, where he worked for over a decade starting in 1999, last as senior vice president for Discovery Research and Clinical Investigation.

Professor Chin is a Harvard-trained endocrinologist and longstanding faculty member. His career is exemplified in part by his extensive bibliography of nearly 300 papers, chapters and books, most of which were generated during his 25 years on the HMS faculty. During his tenure as a faculty member in the Department of Medicine at Brigham and Women's Hospital, he was chief of the Genetics Division and a Howard Hughes Medical Institute (HHMI) investigator and professor of medicine at HMS.

As a pioneering molecular endocrinologist at HMS, Professor Chin embraced the early use of emerging DNA technology to make important discoveries regarding the structure, function and regulation of hormone genes. His investigations often demonstrated a translational research theme, connecting basic laboratory discoveries to their physiologic relevance in animal models and humans. He has been honoured with numerous awards for research, mentorship and leadership. He received his AB (Chemistry; summa cum laude) from Columbia University and his MD from HMS

About Prof Jackie Hunter CBE

Chief Executive Officer, OIPharma Partners Ltd;
Chair, Boards of Biocortex Ltd, Brainomix Ltd and Stevenage Bioscience Catalyst

Jackie Hunter has had an extensive career in the pharmaceutical industry including Senior Vice-President of Neurology and Gastrointestinal Centre of Excellence for GlaxoSmithKline. She was Chief Executive of the Biotechnology and Biological Sciences Research Council (BBSRC), one of the then seven Research Councils in the UK, from 2013 to 2016 and subsequently became Chief Executive of BenevolentBio Ltd, establishing it as the Pharmaceutical R&D arm of BenevolentAI, a company using Artificial Intelligence (AI) to accelerate pharmaceutical R&D. In 2023 retired from the Board of BenevolentAI.

She has had a number of non-executive director roles in both public and private companies and is currently Chair of the Boards of Brainomix, an AI-driven imaging company, Biocortex Ltd, an AI based microbiome start-up and the Stevenage Bioscience Catalyst, a science campus. She is a member of the Board of A*STAR and chairs the Digital Health Accelerator Board in Singapore.

Previous roles have included Chair of the Research Chair of Research Directors' Group, European Federation of Pharmaceutical Industry Associations and an Innovative Medicines Initiative Board member and has served on numerous panels and advisory boards for industry, government and academia. She was also a member of BP plc's Innovation Advisory council, a director of the UK Bioindustry Association and a member of the Royal Society's Science, Industry and Translation Committee and Deputy Chair of the Royal Society's Industry Fellowship awards panel.

She has received a number of awards and honorary doctorates as well as a CBE for services to the Pharmaceutical Industry in 2010. She is a Fellow of the Academy of Medical Sciences, The Royal Society of Biology, The Zoological Society of London and an Honorary Fellow of the British Pharmacological Society.

About Dr Andreas Wallnöfer

Partner, Jeito Capital

Andreas Wallnöfer has over 25 years of experience in the pharmaceutical and biotech industry, including 12 years as a member of the F. Hoffmann-La Roche Pharma R&D Executive Leadership team. Andreas is Partner at Jeito Capital a leading global European investment company. Prior to joining Jeito as a Member of the Investment Committee in 2021, he was General Partner at BioMedPartners, a Swiss based venture capital firm.

Andreas has been successful as an investor and in developing many innovative companies. He is and has been a board member of several European biotech companies. Prior to his career in Venture, he had been Head of Cardiovascular & Metabolism R&D and a member of the Roche / Genentech R&D Committee. Andreas was part of several successful product developments and market introductions. Before the integration of Genentech, Andreas was Global Head of Clinical Research & Exploratory Development and led the R&D organization at multiple sites in Europe, US and Asia. He had a key role in the integration of the Roche and Genentech Development organizations and subsequently led Roche's Early Development Department.

About Prof Alex Matter, M.D., FAACR

*Senior Fellow, A*STAR;*
Adjunct Professor, Duke-NUS (Emerging Infectious Diseases)

Alex Matter was CEO of the Experimental Therapeutics Centre from April 2009 and from January 2012 CEO of the D3 platform, A*STAR (Singapore) until September 2019. Previously, he had spent five and a half years as Director of the Novartis Institute for Tropical Diseases (NITD), from October 2003 to February 2009. Prior to this role, Dr Matter was Global Head of Oncology Research for Novartis Pharmaceuticals Corporation. Dr Matter played an important role in the success of several anticancer drugs, including Gleevec/Glivec® and more recently, Tasigna®, building and leading the teams that discovered these and several other anticancer drugs as well as one HIV protease inhibitor (Reyataz®) that is marketed by another company.

Dr Matter received his medical degree from the University of Basel. He also had fellowships at the Swiss National Science Foundation and the Swiss Academy for Medical Sciences. He has published more than 100 scientific articles and several book chapters in the area of oncology and haematology. He is Emeritus Professor of the Medical Faculty of the University Basel and an Honorary Adjunct Professor of the Department of Pharmacology, YLL School of Medicine, NUS in Singapore. From 2013 – 2019 he served as a member of the Board of the Health Sciences Authorities in Singapore.

He is a member of the Board of several start up companies and has been a chair/member of several Scientific Advisory Boards. He is an elected member of the Swiss Academy of Medical Sciences.

Dr Matter is the recipient of the Life-time Achievement Award from IBC Life Sciences, the 13th Warren-Alpert prize and the AACR-Bruce F. Cain Memorial Award. In 2013 he was awarded the Szent-Gyorgyi Prize from the US National Foundation for Cancer Research and in 2022 he became an elected Fellow of the American Association of Cancer Research.

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