

Research &
Innovation 2021
Therapeutic Innovation for the New Decade
23 - 24 February 2021



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Welcome to Research & Innovation 2021

We are very pleased to welcome you to ELRIG's 8th Annual Research & Innovation conference, hosted this year as a two day virtual meeting.

This ELRIG event is intended to capture and present emerging opportunities in drug discovery research, often as they first arise in the academic arena. Our theme for this year's conference is "Therapeutic innovation for the new decade" and under this umbrella we have put together themed tracks exploring advances and technologies that will enable new and emerging biology to be effectively translated into successful therapeutics.

Complementing the excellent presentations in these tracks we are honoured to be joined by our two plenary keynote speakers, Prof Richard Cornall (University of Oxford) and Prof Sir Peter Donnelly (Genomics plc) who will share their experiences and perspectives on the future of drug discovery from the leading edge of academic and industrial research. The planning and organisation of this meeting was due to the efforts of many individuals. In particular, we would like to thank our session chairs: Liz Carpenter (Vertex), James Errey (Evotec), Paul Klenerman (University of Oxford), Gillian Tannahill (GSK), John Davis (Oxford ARUK DDI), Emanuela Cuomo (AstraZeneca), Anne Neville (Microbiotica) and Dave Powell (Summit Therapeutics), together with the ELRIG Team. We look forward to welcoming you to this event and hope that you enjoy a stimulating and rewarding two days.

Research & Innovation 2021 Conference Directors



Darren Cawkill
(Apollo Therapeutics)



Jon Hutchinson
(GlaxoSmithKline)

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DAY 1: TUESDAY 23RD FEBRUARY

CONFERENCE ROOM

9:30 - 9:35	Conference Welcome & Plenary Keynote Introduction: Dr Jon Hutchinson (GlaxoSmithKline) & Dr Darren Cawkill (Apollo Therapeutics)
9:35 - 10:20	PLENARY KEYNOTE Immunology and revolution Prof Richard Cornall (University of Oxford)
10:20 - 10:40	IMPACT AWARD PRESENTATION Ruthenium antimicrobial compounds - an alternative to traditional antimicrobials Kirsty Smitten
10:40 - 11:10	COFFEE, VENDOR EXHIBITION & POSTERS

INNOVATION IN STRUCTURAL BIOLOGY & BIOPHYSICS CONFERENCE ROOM: TRACK 1

THE RISE OF IMMUNOLOGY ACROSS DISCOVERY CONFERENCE ROOM: TRACK 2

11:10 - 11:15	SESSION CHAIR INTRODUCTIONS: Prof Liz Carpenter (Vertex) & Dr James Errey (Evotec)	11:10 - 11:15	SESSION CHAIR INTRODUCTIONS: Paul Klenerman (University of Oxford) & Gillian Tannahill (GlaxoSmithKline)
11:15 - 11:35	Franklin and factor of 10 opportunities: Prof Jim Naismith (University of Oxford)	11:15 - 11:35	Monogenic inflammatory bowel disease - understanding key nodes of mucosal homeostasis Prof Holm Uhlig (John Radcliffe Hospital)
11:35 - 11:50	New developments in the analysis of molecular: interactions using NMR spectroscopy Dr Christopher Waudby (UCL)	11:35 - 11:55	Bench to bedside Treg therapy development and delivery Dr Ye Htun Oo (University of Birmingham)
11:50 - 12:00	COMFORT BREAK	11:55 - 12:00	NEXCELOM BIOSCIENCE LTD PLATINUM SPONSOR PRESENTATION High throughput cell imaging and analysis - do even more for less Dr Suzanne Riches
12:00 - 12:20	Native mass spectrometry as a novel drug discovery: method for membrane proteins Ali Jazayeri (OMass)	12:00 - 12:05	COMFORT BREAK
12:20 - 12:40	Joint Q&A session	12:05 - 12:25	Type 17 immunity and arthritis Dr Hussein Al-Mossawi (UCB & University of Oxford)
12:40 - 12:45	NEXCELOM BIOSCIENCE LTD PLATINUM SPONSOR PRESENTATION High throughput cell imaging and analysis - do even more for less Dr Suzanne Riches	12:25 - 12:45	Joint Q&A session
12:45 - 13:00	EVOTEC INDUSTRY INSIDER Enabling structure based drug design Alison Hole	12:45 - 13:15	PROMEGA UK PLATINUM SPONSOR PRESENTATION Exploring microsatellite instability (MSI) screening technologies abstract Dr Pamela Ward
13:00 - 14:10	LUNCH, VENDOR EXHIBITION & POSTERS	13:15 - 14:10	LUNCH, VENDOR EXHIBITION & POSTERS
14:10 - 14:15	SESSION CHAIR INTRODUCTIONS: Prof Liz Carpenter (Vertex) & Dr James Errey (Evotec)	14:10 - 14:15	SESSION CHAIR INTRODUCTIONS: Paul Klenerman (University of Oxford) & Gillian Tannahill (GlaxoSmithKline)
14:15 - 14:35	3D electron diffraction methods for crystal structure determination - from materials to proteins Hongyi Xu (Stockholm University)	14:15 - 14:35	Hepcidin and iron-mediated regulation of immunity Prof Hal Drakesmith (MRC Weatherall Institute of Molecular Medicine)
14:35 - 14:50	PELAGO INDUSTRY INSIDER The probe engagement atlas - From target engagement to cellular profiles Dr Daniel Martinez Molina	14:35 - 14:50	MERCK INDUSTRY INSIDER Characterization of SARS-CoV-2 RBD IgG humoral response using Single Molecule Counting technology Alex Ko
14:50 - 15:10	Match-making innovation with opportunity in drug discovery Chun-wa Chung (GlaxoSmithKline)	14:50 - 15:10	Trained immunity in diabetes: new targets beyond glucose in diabetes spectrum diseases Prof Robin Choudhury (Radcliffe Department of Medicine)
15:10 - 15:15	COMFORT BREAK	15:10 - 15:15	COMFORT BREAK
15:15 - 15:35	Expanding the industrial structural biologist's toolkit with cryo-em Dr Judith Reeks (Astex Pharmaceuticals)	15:15 - 15:35	Lactate: fuelling the fire starter Prof Claudio Mauro (University of Birmingham)
15:35 - 15:55	Joint Q&A session	15:35 - 15:55	Joint Q&A session

DAY 2: WEDNESDAY 24TH FEBRUARY

CONFERENCE ROOM

9:30 - 9:35	Conference Welcome & Plenary Keynote Introduction: Dr Jon Hutchinson (GlaxoSmithKline) & Dr Darren Cawkill (Apollo Therapeutics)
9:35 - 10:20	PLENARY KEYNOTE Empowering drug discovery through genomics Sir Peter Donnelly (University of Oxford)
10:20 - 10:50	COFFEE, VENDOR EXHIBITION & POSTERS

SEEKING NOVEL DRUG TARGETS FOR THE DISCOVERY PIPELINE SPONSORED BY NECELOM BIOCIENCE LTD CONFERENCE ROOM: TRACK 1

INNOVATIVE MEDICINES: NOVEL ANTIMICROBIALS AND MICROBIOME INTERVENTIONS CONFERENCE ROOM: TRACK 2

10:50 - 10:55	SESSION CHAIR INTRODUCTIONS: Dr Emanuela Cuomo (AstraZeneca) & John Davis (Oxford ARUK DDI)	10:50 - 10:55	SESSION CHAIR INTRODUCTIONS: Dr David Powell (Summit Therapeutics Plc) & Dr Anne Neville (Microbiotica)
10:55 - 11:15	Drug discovery for Alzheimer's disease - challenges and opportunities Dr Magnus Walter (AbbVie)	10:55 - 11:15	Novel immunotherapeutics to target gram-negative bacterial infections Mike Westby (Centauri Therapeutics)
11:15 - 11:30	PSYCHIATRY CONSORTIUM INDUSTRY INSIDER Accelerating innovative drug discovery in psychiatry: an introduction to the Psychiatry Consortium Dr Laura Ajram	11:15 - 11:30	PROMEGA PLATINUM SPONSOR PRESENTATION Automated purification technologies for microbiome faecal samples Douglas Horejsh
11:30 - 11:50	Modelling and understanding dementia using stem cell-derived neurons Charlie Arber (UCL Queen Square Institute of Neurology)	11:30 - 11:50	Development of oligonucleotide antimicrobials to counter emerging infections Christian Grøndahl (SNIPR BIOMS)
11:50 - 11:55	COMFORT BREAK	11:50 - 11:55	COMFORT BREAK
11:55 - 12:15	Artificial Intelligence in target discovery Dr Alejo Nevado-holgado (University of Oxford, Psychiatry Department)	11:55 - 12:15	Machine learning guided design of novel mode of action gram-negative antibiotics Paul Finn (Oxford Drug Design)
12:15 - 12:35	Joint Q&A session	12:15 - 12:35	Joint Q&A session
12:35 - 12:40	IOTA SCIENCES INDUSTRY INSIDER Efficient and automated single cell cloning with iotaSciences cloning platform Dr Katia Mattis	12:35 - 12:40	NEXCELOM BIOSCIENCE LTD PLATINUM SPONSOR PRESENTATION Revolutionise your cell counting workflow with the Cellaca MX Dr Suzanne Riches
12:40 - 12:45	NEXCELOM BIOSCIENCE LTD PLATINUM SPONSOR PRESENTATION Revolutionise your cell counting workflow with the Cellaca MX Dr Suzanne Riches	12:40 - 12:55	LUMINEX INDUSTRY INSIDER Luminex flow cytometry and protein tools for drug discovery research Prabhjoat Chana
12:45 - 13:00	PROMEGA PLATINUM SPONSOR PRESENTATION Phenotype assessment of protein function and target validation using reversible knock-out of endogenously expressed protein targets via a fusion... Craig Malcolm	12:55 - 13:00	TECHNOLOGY SPOTLIGHT PRESENTATION
13:00 - 14:00	LUNCH, VENDOR EXHIBITION & POSTERS BMG LABTECH WORKSHOP	13:00 - 14:00	LUNCH, VENDOR EXHIBITION & POSTERS BMG LABTECH WORKSHOP
14:00 - 14:05	SESSION CHAIR INTRODUCTIONS: Dr Emanuela Cuomo (AstraZeneca) & John Davis (Oxford ARUK DDI)	14:00 - 14:05	SESSION CHAIR INTRODUCTIONS: Dr David Powell (Summit Therapeutics Plc) & Dr Anne Neville (Microbiotica)
14:05 - 14:25	Multidimensional super-resolution imaging Steven Lee (University of Cambridge)	14:05 - 14:25	Mining the gut microbiome for novel antimicrobial pharmibiotics based on bacteriocins and phage Prof Paul Ross (ACP Microbiome Ireland)
14:25 - 14:45	Transforming drug target discovery through an integrated genomics approach Dr Dirk Paul (AstraZeneca)	14:25 - 14:45	Translating precision in microbiome science into transformative medicines and biomarkers Dr Anne Neville (Microbiotica)
14:45 - 14:50	COMFORT BREAK	14:45 - 14:50	COMFORT BREAK
14:50 - 15:10	CRISPR screens for target discovery - finding needles in haystacks Dr Ultan McDermott (AstraZeneca)	14:50 - 15:10	Gut dysbiosis and response to cancer immunotherapy: from disease phenotyping to therapeutic targeting Dr David Pinato (Imperial College London)
15:10 - 15:30	Chemical biological approaches for target identification and validation Kilian Huber (SGC)	15:10 - 15:30	Application of human genetics to improve causality in relationships between the gut microbiome and human disease Dr Kaitlin Wade (University of Bristol)
15:30 - 15:50	Joint Q&A session	15:30 - 15:50	Joint Q&A session
15:50 - 16:00	Conference Close and Poster Award Presentations Dr Darren Cawkill (Apollo Therapeutics) Dr Jon Hutchinson (GlaxoSmithKline)		

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