



CRISPR IN DRUG DISCOVERY 2023

7TH & 8TH FEBRUARY 2023
THE KINGS CENTRE,
OXFORD

#ELRIG

#CRISPR

#CRISPRINDRUGDISCOVERY23

 elrig.org

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ABOUT ELRIG

The European Laboratory Research & Innovation Group (ELRIG) is a leading European not-for-profit organization that exists to provide outstanding scientific content to the life science community. The foundation of the organisation is based on the use and application of automation, robotics and instrumentation in life science laboratories, but over time, we have evolved to respond to the needs of biopharma by developing scientific programmes that focus on cutting-edge research areas that have the potential to revolutionize drug discovery.

Comprising a global community of over 12,000 life science professionals, participating in our events, whether it be at one of our scientific conferences or one of our networking meetings, will enable any of our community to exchange information, within disciplines and across academic and biopharmaceutical organisations, on an open access basis, as all our events are free-of-charge to attend!

OUR VALUES

Our values are to always ensure the highest **quality of content** and that content will be made readily **accessible to all**, and that we will always be an **inclusive** organisation, serving a **diverse scientific network**. In addition, ELRIG will always be a **volunteer led** organisation, run by and for the **life sciences community**, on a **not-for-profit** basis.

OUR PURPOSE

ELRIG is a company whose purpose is to bring the life science and **drug discovery** communities together to **learn, share, connect, innovate and collaborate**, on an **open access** basis. We achieve this through the provision of world class conferences, networking events, webinars and digital content.

GOVERNANCE

ELRIG's board is comprised of volunteers from it's community, who either work in biopharma, CRO's, academia or with vendor companies. The board is steered by the General Committee, who act as a direct connection to the community and thus is comprised of a diverse group of people. The board delegates it's tasks to a series of work groups, who work with the Operational Team to ensure ELRIG achieves it's objectives. Current work groups are:

- Early Career Professionals
- Marketing Communications
- Networking & Webinars
- People & Culture
- Publications
- Science Strategy
- Vendor Outreach

STRATEGIC PILLARS



EVENTS

Deliver UK leading events, showcasing cutting edge science and technology, that are accessible to all.



EQUALITY, DIVERSITY & INCLUSIVITY

Promote inclusivity, engagement and collaboration, in our diverse community.



PRESENCE & AWARENESS

Expand and enhance our digital presence.



SUSTAINABILITY

Drive an open and transparent organisation, with a focus on delivery excellence and financial sustainability.

ELRIG'S EQUALITY DIVERSITY AND INCLUSION AIMS AND GUIDING PRINCIPLES

OUR AIMS

- ELRIG will strive for cultural change, both for itself and the ELRIG community
- Rather than a policy we have developed the ELRIG Community's Guiding Principles
- We will communicate the journey and the conclusions
- The process and implementation of outcomes will be transparent
- Data and the ELRIG community will guide action
- Mechanisms will be put in place to ensure that accessibility is maximised at all events
- Guiding principles will be embedded in governance and all Work Groups daily activities

OUR GUIDING PRINCIPLES

We will promote equality, by welcoming all to all our events and will be inclusive, by removing barriers to access, and that our events will represent the diversity of the ELRIG community.

OUR EQUALITY PRINCIPLE IS:

We will ensure that all are welcome by: profiling the demographics of attendees by segment, age, ethnicity, disability and gender, monitoring and ensuring that no one group is favoured nor excluded and act to ensure equal outcomes and opportunities for the entire ELRIG community.

OUR DIVERSITY PRINCIPLE IS:

We will strive for gender balance at our events, by ensuring that the diversity mix of our speakers represents the diversity of our delegates, and that the diversity mix of our delegates represents the diversity of the ELRIG community, as well as ensuring that scientific content reflects the diversity of the ELRIG community.

OUR INCLUSIVITY PRINCIPLE IS:

We will ensure that accessibility is maximised at all events, by removing barriers to those with disabilities, limits on finances, caring and parental responsibilities, religious needs, geographical location and other requirements. To ensure our principles remain relevant, we will solicit, monitor, and report to the ELRIG community and act upon relevant feedback during and after events to maintain accessible and safe spaces in which to collaborate.

WELCOME TO CRISPR IN DRUG DISCOVERY 2023

A very warm welcome to the delegates, speakers and exhibitors joining us for our fifth CRISPR in Drug Discovery conference organised by ELRIG.

We are pleased to be able to host you from Oxford, a centre of academic and biotechnology excellence.

The impact of CRISPR-based genome engineering technologies has been revolutionary across all phases of drug discovery since its inception as a genome editing tool a decade ago. Over the next two days, we intend to demonstrate the profound impact of CRISPR technologies on the present and the future of drug discovery through a series of presentations by world class speakers and technology providers who will illustrate both the current accomplishments and future possibilities of the rapidly evolving methodologies around CRISPR genome engineering. We are especially pleased to have keynote presentations from Jonathan Weissman, a leader in functional genomics and the application of CRISPRi screening with single cell transcriptomic readouts, Bart de Strooper, a pioneer in neurodegenerative disease modelling, and Fyodor Urnov, an innovator in translating genome engineering approaches to the clinic.

Sessions will focus on the power of CRISPR based methods to identify novel drug targets through the application of pooled and arrayed CRISPR functional genomic screens including those with single cell 'omics and imaging based readouts, screens for single nucleotide variation and their use in complex model systems. This will be followed by applications in target validation in disease relevant cellular systems, such as iPSCs and human primary immune cells. We will conclude with a session looking ahead to the potential of CRISPR based technologies to be utilized as tools for therapeutic genome engineering of somatic cells, especially in the treatment of genetic diseases.

The podium program has been complemented by presentations from leading CRISPR reagent and service providers that will be of broad scientific interest and highlight the accessibility of such technology. The scientific program will be rounded out by a poster session and vendor exhibition, allowing participants the opportunity to engage directly with application scientists and explore the latest instrumentation and reagents offered by exhibitors.

The organisation of this meeting required hard work and dedication from many individuals. We would like to thank the ELRIG operations team; Clare Cockerham, Tara Shanks, Emma Zsadanyi and Sanj Kumar for their administrative support and Melanie Leveridge, the chair of ELRIG for helping to develop the initial concept of this unique conference.

ELRIG is a not-for profit organisation whose mission is to provide outstanding, leading-edge knowledge to the life sciences community on an open access basis. This would not be possible without the generous support of the exhibitors. We are grateful to them all and especially to our platinum sponsors; Synthego. Please do take some time to engage with them during the refreshment breaks.

We hope that you all enjoy the symposium over the next two days and look forward to meeting you!

PLENARY KEYNOTE SPEAKERS



Jonathan Weissman
Professor of Biology, Whitehead Institute

CRISPR-BASED SINGLE CELL APPROACHES FOR MAPPING GENE FUNCTION AND TUMOR EVOLUTION

7th February 2023, 12:35
Auditorium via Zoom



Fyodor Urnov
Professor of Genetics, Genomics, Evolution, and Development, UC, Berkeley

7th February 2023, 16:50
Auditorium via Zoom



Bart De Strooper
Director, UK DRI

CRISPR CAS 9 SCREENING FOR MODULATORS OF TAU PATHOLOGY IN VIVO IN A HUMAN-MOUSE CHIMERIC MODEL FOR ALZHEIMER'S DISEASE

8th February 2023, 09:05
Auditorium

CONFERENCE DIRECTORS



Andrew Bassett
Head of Cellular and Gene Editing Research, Wellcome Sanger Institute



Aurore Saudemont
Scientific Director Genome Biology, GlaxoSmithKline



Marcello Maresca
Senior Director, AstraZeneca

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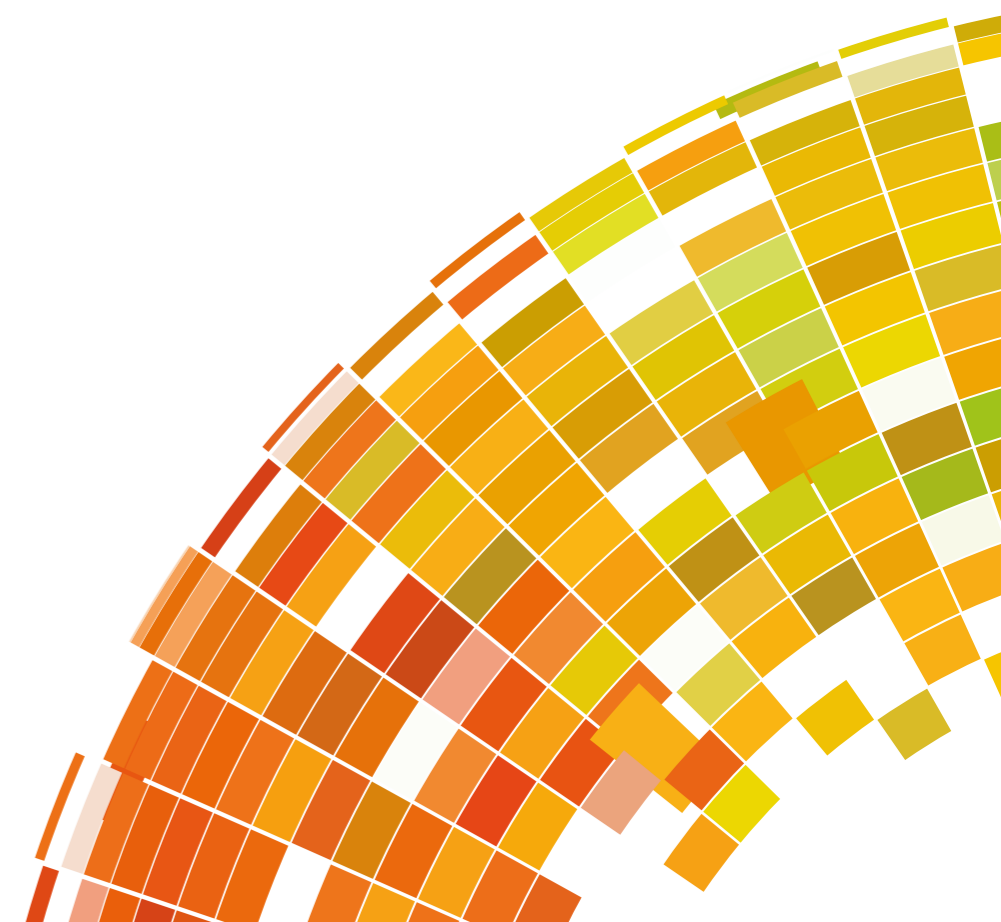
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INFORMATION FOR PARTICIPANTS

REGISTRATION

To help keep CRISPR in Drug Discovery 2023 a safe space, we require the following from all attendees:

1. Pre-registration for the meeting is essential. Please register at elrig.org and enter our EventFlo registration system (if you wish to, you may choose a pro-noun, which will be printed on your badge).
2. To ensure we minimize the risk of spreading COVID, please ensure that you have had at least two vaccinations against the COVID virus and that you are not presenting with any of the symptoms. At registration you may be asked to present your COVID passport, or a document issued by your local government showing you have been double vaccinated. Once you have entered the venue, you may wear a mask if you wish, but this is not compulsory. Please be aware that we expect the meeting to be completely full, so social distancing in the exhibition area and auditorium will not be possible.
3. Please observe our safe space guidelines: At ELRIG we want all our meeting participants, whether the meeting is face-to-face or on-line, to enjoy, participate in and contribute to the event. We are therefore dedicated to providing a harassment-free experience for all event participants involved in its activities and meetings. ELRIG does not accept harassment or intimidation of ELRIG participants in any form whether verbal, physical, or written (including on social media or by email).

Harassment includes, but is not limited to:

1. Offensive or unwanted conduct on the basis of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex or sexual orientation which has the purpose or effect of violating dignity or creating an intimidating, hostile or degrading environment.
2. Use of sexualised or other inappropriate images or unwelcome sexualised content, inappropriate physical contact, unwelcome sexual attention or stalking.
3. Sustained interruption of speakers or those asking questions.
4. Unwanted photography or filming.

Intimidation includes, but is not limited to:

1. Making threats.
2. Bullying.
3. Personal attacks.

Participants who do not adhere to these rules will be asked to stop and expected to comply immediately. Participants may be removed from any meeting or communications at the discretion of ELRIG's management if this behaviour continues. If you are being harassed/ intimidated, notice that someone else is being harassed/ intimidated, or have any other concerns, please contact any of the ELRIG management team immediately. They will be able to step in to remove you or others from a chain of communication, if this is the preferred action, and can also facilitate a discussion or mediation. If you wish, you may also nominate someone else to support facilitating any mediation or as an observer to this process..

WIFI

Wi-Fi is freely available throughout the venue and may be found by following the below instructions::

1. Enable the wireless function on your device.
2. KingsCentrePremium & enter the code 6317-77150 (including the hyphen).

ELRIG MOBILE APP

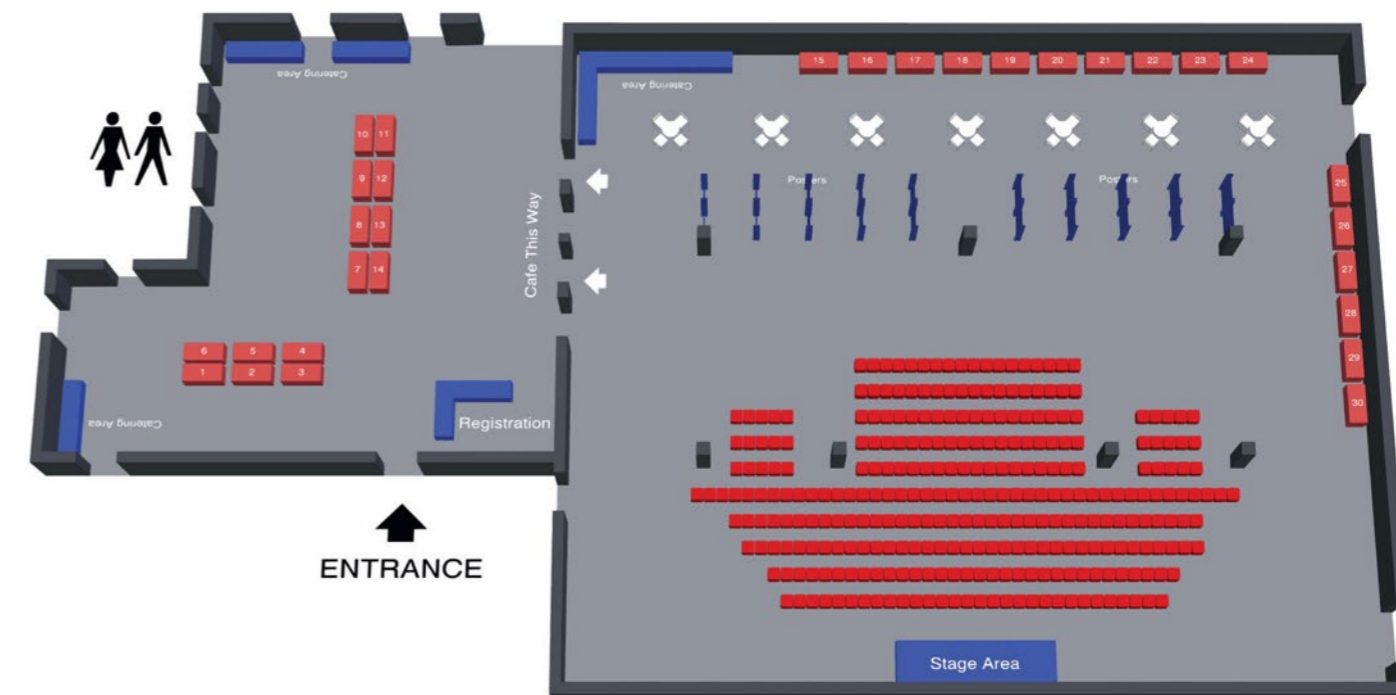
Download the free ELRIG app and access all our conference information, programme and more from your phone or tablet.

- View the event programme
- View presentation and poster abstracts
- View speaker profiles
- View the exhibitor guide
- View the delegate and exhibitor list
- Organise your day with your own favourites list
- Share your profile as vCard and QR Code and scan exhibitor QR code information tags
- Network – contact delegates, other exhibitors and speakers easily through opt-in directories and integration with Linked-In, Twitter and Facebook

You can download the ELRIG app by visiting the app store appropriate to your tablet or smart phone, scanning the QR code below or visiting the ELRIG website: elrig.org/mobile-app



FLOOR PLAN



TRACK SUMMARY

7th February 2023
Auditorium

SESSION CHAIRS
Andrew Bassett
Wellcome Sanger Institute

08.30-09.30	Registration
09.30-09.40	Conference Welcome & Session Introduction - Functional Genomics - Andrew Bassett, Wellcome Sanger Institute
09.40-10.10	Target discovery by multimodal single cell CRISPR screens in primary immune cells - Radu Rapiteanu, GlaxoSmithKline
10.10-10.25	Industry Insider Partner - Single-cell CRISPR screens in primary human T cells identify regulators of Th2 cell skewing - Henrik Schmidt, Myllia Biotechnology GmbH
10.25-10.55	CRISPR multiplexing for synthetic lethality and genetic modeling of polypharmacology - Traver Hart, The University of Texas MD Anderson Cancer Center
10.55-11.30	Refreshment Break
11.30-12.00	Single-Cell Cell Biology via Perturbation Profiling at Scale - Paul Blainey, Broad Institute of MIT and Harvard and MIT Department of Biological Engineering
12.00-12.30	Conference Partner - Improved methods for high-throughput knockout and knock-in screens in immortalized cell lines and iPSCs - Ashley Jacobi Integrated DNA Technologies
12.30-12.35	Technology Spotlight Partner
12.35-13.20	Plenary Keynote - CRISPR-based Single cell approaches for mapping gene function and tumor evolution - Jonathan Weissman, Whitehead Institute 
13.20-14.20	Refreshment Break with Poster Session
14.20-14.50	In vivo CRISPR screens reveal Serpinb9 and Adam2 as regulators of immune therapy response in lung cancer - Dzana Dervovic, AstraZeneca
14.50-14.55	Technology Spotlight Partner
14.55-15.15	Poster Presentations
15.15-15.45	In vivo CRISPR screens reveal the landscape of immune evasion pathways across cancer - Robert Manguso, Massachusetts General Hospital Cancer Center 
15.45-16.15	Refreshment Break
16.15-16.45	Transforming diagnostic confidence in genetic diseases using CRISPR-based variant effect assessment - Hong Kee Tan, Sanger Institute
16.45-16.50	Technology Spotlight Partner - The Joint AstraZeneca - Cancer Research Horizons Functional Genomics Centre: Using pooled CRISPR screening to drive oncology drug discovery - David Walter, Cancer Research UK
16.50-17.30	Plenary Keynote - Fyodor Urnov, UC, Berkeley 
17.30-19.00	Networking in The Exhibition Hall

 Presenters will appear in-person, unless marked with this icon, when they appear virtually.

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TRACK SUMMARY

8th February 2023
Auditorium

SESSION CHAIRS
Aurore Saudemont
GlaxoSmithKline
Marcello Maresca
AstraZeneca

08.30-09.00	Registration
09.00-09.05	Conference Director Welcome & Keynote Introduction - Aurore Saudemont, GlaxoSmithKline
09.05-09.50	Plenary Keynote - Crisper CAS 9 screening for modulators of Tau pathology in vivo in a human-mouse chimeric model for Alzheimer's Disease - Bart De Strooper, UK DRI
09.50-10.05	Industry Insider Partner - Sample Management Solutions for the Multiomics Era - Mark Graham, Beckman
10.05-10.20	Industry Insider Partner - Efficient single-cell isolation technology for streamlined and unequivocal generation of monoclonal hiPSC cultures - Jonathan Whitchurch, IotaSciences
10.20-10.50	Refreshment Break
10.50-10.55	Session Chair Introduction - Target Validation - Aurore Saudemont, GlaxoSmithKline
10.55-11.25	Challenges and learnings from primary T cell genomic screens - Klio Maratou, GlaxoSmithKline
11.25-11.40	Industry Insider Partner - Using arrayed CRISPR screening approaches and CRISPR engineered cell lines in the drug discovery process - Kevin Holden, Synthego
11.40-12.10	Using hiPSC-neurons and CRISPR to uncover non-additive effects of SCZ risk genes - Michael Deans, Yale University
12.10-12.40	Somatic mutations in human induced pluripotent stem cells - Foad Rouhani, Sanger Institute
12.40-13.45	Refreshment Break with Poster Session
13.45-13.50	Session Chair Introduction - Therapeutics - Marcello Maresca, AstraZeneca
13.50-14.20	Identifying and Engineering Orthogonal and Synthetic RNA-Guided Nucleases (sRGN) - André Cohnen, Bayer AG
14.20-14.50	SPOT-ON, a Cas9 nuclease with no detectable off-targets and reduced chromosomal translocations in vivo - Greg Sienski, AstraZeneca
14.50-15.20	Therapeutic Application of Base and Prime Editing in Fanconi Anemia - Paula Rio, CIEMAT 
15.20-15.30	Conference Close

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ELRIG EVENTS 2023

KEY EVENTS

ELRIG is a learned society that organises scientific conferences and forums, for the European drug discovery community. Meetings will have anywhere between 40 to 1500 attendees. Meetings may be an afternoon only to 2 days in length and have a very narrow focus or contain a broad range of topics, applicable to many research areas within the drug discovery community. All events are free-to-attend, simply register at elrig.org.



2023 CONFERENCES

RESEARCH & INNOVATION 2023: ACCELERATING FUTURE DRUG DISCOVERY

Hinxton, Cambridge
March 29th - 30th

ELRIG THERAPEUTIC OLIGO AND EUROPEAN CHEMICAL BIOLOGY SYMPOSIUM 2023

AstraZeneca, Gothenburg
May 9th - 11th

DRUG DISCOVERY 2023

ACC Liverpool
October 18th - 19th

HIGH CONTENT IMAGING AND FLOW CYTOMETRY IN DRUG DISCOVERY 2023

GSK, Stevenage
November 21st - 22nd

2023 NETWORKING EVENTS

CAMBRIDGE

May 23rd

LONDON

June 29th

2023 FORUMS

LABEL-FREE MASS SPECTROMETRY ASSAYS FOR EARLY DRUG DISCOVERY

The Netherlands
January 25th

SUSTAINABILITY PRACTICES IN DRUG DISCOVERY RESEARCH

Oxford
April 19th

THE SCOTTISH RESEARCH AND DRUG DEVELOPMENT FORUM

Scotland
April 27th

DISCOVERY TECHNOLOGIES 2023: COMPLEX MEDICINES FORUM

Liverpool
June 20th

ADVANCEMENTS IN CELL & GENE THERAPY: NEW THERAPEUTIC HORIZONS

Basel
September 21st

FRENCH DRUG DISCOVERY FORUM

France
December 6th

All events are in-person and free of charge to attend, but registration is essential.

