

# BIOLOGICS EUROPE: **ONLINE**

+ Co-located Oligonucleotides: Chemistry & Therapeutics Symposium

26 - 28 April 2021 | BST (UTC+1)

**ENGAGE, EDUCATE & ELEVATE**

**500+**

LEADING PHARMA, BIOTECH  
AND ACADEMIC DELEGATES

**16+ HOURS**

OF INTERACTIVE SESSIONS  
INCLUDING Q&As, PANEL DISCUSSIONS,  
ROUNDTABLES & WORKSHOPS

**50+**

PRESENTATIONS, CASE  
STUDIES AND DISCUSSIONS

Conference Brochure

## KEY SPEAKERS INCLUDE



Bruce Carpick  
Sanofi Pasteur



Amita Datta-Mannan  
Eli Lilly



Kevin McDonnell  
Bicycle Therapeutics



Mack Flinspach  
Takeda



Katharina Billian-Frey  
Apogenix



Punit Seth  
Ionis Pharmaceuticals

Book Online: [www.oxfordglobal.co.uk/biologics-series-virtual/](http://www.oxfordglobal.co.uk/biologics-series-virtual/)

Join the Conversation: [#BiologicsSeries21](https://twitter.com/BiologicsSeries21)





## Contents

Attendees & Sponsors	3
Session Topic Areas	4
Conference Schedule (Biologics Europe: Online)	5
Symposium Schedule (Oligonucleotides: Chemistry & Therapeutics)	15
What To Expect – Our Virtual Event Platform	18
Forthcoming Events	19

## Welcome

Oxford Global are pleased to introduce you to 2021 **Biologics Europe: Online**, featuring outstanding congress programmes pertaining to the latest biologics research & development; covering key areas within proteins, antibodies & bispecifics and peptides.

Building on the success of our annual Biologics Series UK, we are bringing you an online event jam-packed with presentations, roundtables, panel discussions & workshops – all focusing on the latest advancements, technology developments and market priorities & challenges.

The **Proteins, Antibodies and Bispecifics** tracks take an in-depth look at the latest engineering techniques, methods, bispecifics platform development and protein expression systems updates. Our expert speaker panel will also be covering bioanalysis: characterisation and stability and bispecifics discovery & development.

The **Peptides** tracks will look at their chemistry, synthesis, analytical development and will also feature case study presentations from various therapeutics areas including metabolic disorders, immunology and immune-oncology.

The 2021 online programme also features a series of roundtable and panel discussions covering machine learning-based design for antibodies, advanced delivery approaches for biologics, overcoming the challenges of bispecific platform development, bispecific T cell engagers, peptide purification challenges, peptide delivery and many more. In addition to this, our carefully designed agenda houses two new workshops looking at *Vaccine Development* and *Structural Biology Aiding Antibody Discovery*.

The co-located **Oligonucleotides: Chemistry & Therapeutics Symposium** will take a deep dive into the pressing challenges and opportunities in oligo chemistry, synthesis, analytical development and oligo & miRNA therapeutics. Join the interactive panel discussion on 'Opportunities & Challenges Of Using Oligo And miRNA Therapeutics' and network with like-minded experts from leading pharmaceutical companies and academic institutions

Join & network with over 500+ biologics visionary leaders to stay at the forefront of research and debate key areas that will shape the future of the biologics industry.

WHO IS ATTENDING?

**500+ VPs, Directors & Senior Managers** from leading healthcare, biotech, pharma and research institutions in the following fields and more:

**PROTEINS & BISPECIFICS**

- Protein Structure
- Protein Engineering
- Protein Expression
- ADCs
- Antibody Engineering
- Bispecific Antibodies
- Bioanalysis

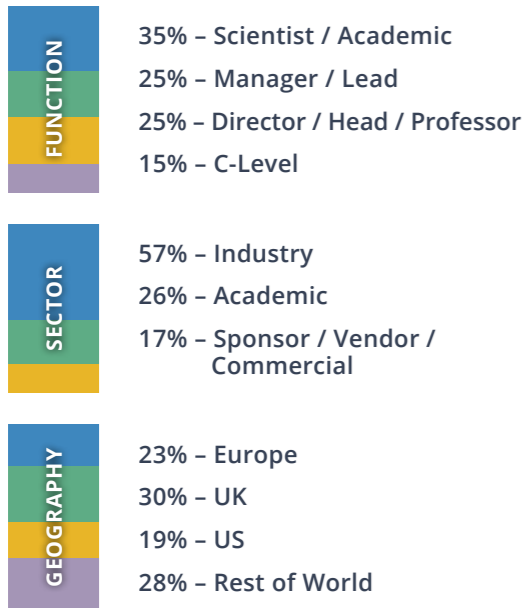
**PEPTIDES**

- Peptide Design
- Peptide Delivery
- Peptide Screening
- Peptide Therapeutics
- Peptide Formulation
- Peptide Chemistry
- Peptide Conjugation

**OLIGONUCLEOTIDES**

- Oligo Analytics
- Characterisation
- Oligo Formulation & Delivery
- Oligo Development
- Oligo Chemistry & CMC

**2020's Attendee Profile**



**These companies and many more:**



**Formal and informal meeting opportunities** offer delegates the chance to discuss key solutions with leading service providers:

**PROTEINS & BISPECIFICS**

- Expression Platforms
- Engineering Tools
- Conjugation Technologies
- Display Technologies
- Developability Assessment
- Computational Tools
- Bioanalysis Tools
- Protein Purification

**PEPTIDES**

- Peptide Synthesis
- Peptide Delivery
- Stability Testing
- Peptide Array Technologies
- Peptide Analysis Tools
- Peptide Purification
- Peptide Formulation

**OLIGONUCLEOTIDES**

- Oligo Synthesis
- Impurity Analysis
- Oligo Delivery
- Custom Oligos
- Impurity Analysis

WHO IS SPONSORING?

Platinum Sponsor

**SARTORIUS**

Gold Sponsor

**Sino Biological**

**Lonza**

Pharma & Biotech

**GenScript**  
Make Research Easy

Silver Sponsor

**TWIST**  
BIOSCIENCE

Bronze Sponsor

**AbCellera**

**MABSilico**

**Waters**  
THE SCIENCE OF WHAT'S POSSIBLE.™

**GYROS PROTEIN**  
Technologies

Network & Programme

**BACHEM**

**Fyoni Bio**  
Service Branch of GlycoTape

**REDSHIFTbio**  
See change™

**Rodon Biologics**  
Express your needs

**vivitide**  
Science for life

Symposium Sponsors

**Bio-Works**

**ST PHARM**

**Waters**  
THE SCIENCE OF WHAT'S POSSIBLE.™



## SESSION TOPIC AREAS

**Biologics Europe: Online** features **3 days** of cutting-edge presentations and knowledge-sharing, consisting of **over 50 live presentations, roundtables, panel discussions and live workshops** taking place over both days of the event. These are available to holders of both our Free Pass and our Full Pass.

### DAY ONE - 26 APRIL

Track 1:	Antibody, ADC And Bispecifics Engineering, Screening & Design
Track 2:	Bioanalysis: Formulation & Delivery, Characterisation, Stability, PKPD
Track 3:	Peptides Chemistry, Analytical Development, Formulation & Delivery

### DAY TWO - 27 APRIL

Track 4:	Protein Engineering, Protein & Antibody Production Development, Purification, Expression
Track 5:	Bispecifics Development
Track 6:	Peptide Therapeutic Case Studies & Novel Disease Treatments

### DAY THREE - 28 APRIL

Oligonucleotides: Chemistry & Therapeutics Symposium

#### COMPLIMENTARY PRE-EVENT CONTENT

##### PROTEINS DIGITAL WORKSHOP RECORDINGS

- Bispecific Discovery & Platform Development
- Antibody Engineering & Development
- Bioanalysis
- Biotherapeutics: Research, Discovery & Development

##### PEPTIDES DIGITAL WORKSHOP RECORDINGS

- Peptide Therapeutics
- Peptide Discovery & Development



These recordings are available as free downloads on our [Content HUB](#) as well as much more, including newsletters, interviews, market surveys, and webinar recordings



Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
*Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass*

All Times Shown are BST (UTC+1)

DAY ONE: 26 APRIL 2021

08:25  
-  
08:30

**Opening Remarks**

**Stream Keynote Address:  
Rapid Anti-COVID19 Antibody  
Development**

ENGINEERING

- From discovery to IMPD in less than a year
- Fully human neutralizing antibodies to help patients which do not benefit from vaccines

STEFAN DUEBEL, Full Professor and Director,  
Dept Biotechnology,  
**Technische Universität Braunschweig**

**Stream Keynote Address:  
Analytical Strategy Considerations  
And Examples To Assess Complex  
Therapeutic Proteins**

BIOANALYSIS

- Introduction to challenges observed with the next generation protein Biotherapeutics
- Presentation of mitigation strategies to overcome these challenges
- Examples from internal projects and our recent publication will be given

PAUL WASSMANN, Senior Principal Scientist,  
**Novartis**

**Stream Keynote Address:  
Peptide Delivery: Challenges  
And Opportunities From  
New Technologies**

PEPTIDES CHEMISTRY

- Drivers and technology trends for peptide delivery
- Specific formulation challenges for peptides
- Recent progress for long acting injectable formulations
- Case study: in situ forming implants from liquid bioresorbable polymer-based formulations for peptide delivery

JOEL RICHARD, Chief Development Officer,  
**MedinCell**

08:30  
-  
08:50

**Industry Presentation:  
Intact Protein MS And Multi-Attribute Method Approach For  
In Vivo Monitoring Of Product Quality Attributes**

BIOANALYSIS

- Complex biotherapeutics may require additional characterization or stability testing in vivo to best inform clinical developability, safety, and efficacy. In this case study, a bispecific antibody with several product quality attributes was screened from an in-life rat study
- Samples were screened for multiple product attributes by MS detection of intact mass species and selected antibody variable region peptides generated from tryptic digestion
- Risks monitored at the intact mass level included homodimers, clipped species, intact glycation, and unpaired half-antibody fragments. From tryptic digestion, masses of sequences containing Met, Asn, or Asp residues were monitored for modified/unmodified forms, extending the multi-attribute method (MAM) to in-life samples

JOHN KELLIE, Scientific Leader & Fellow, **GlaxoSmithKline**

08:50  
-  
09:10

**Industry Presentation:  
High Throughput Purification Of Peptides To Advance  
Therapeutics**

PEPTIDES CHEMISTRY

- In recent years high throughput peptide generation, purification and characterization has regained interest
- Herein, we present our recent efforts into AI-aided high throughput LC-MS purification of synthetic peptides

JACOB KOFOED, Principal Scientist,  
**Novo Nordisk**

09:10  
-  
09:40

**Solution Provider Presentation:  
Generation Of Functional Monoclonal Antibodies By  
Single B Cell Cloning**

ENGINEERING

Multiple technology platforms are available to support high-quality antibody development in both research and drug discovery. Single B cell sorting has been widely used for antibody screening with advantages in allowing the isolation of native and functional antibodies within a higher chance. Sino Biological Inc. uses this platform to develop rabbit and mouse monoclonal antibodies by coupling antigen-specific single B cell sorting followed by antibody sequence PCR or B cell culture. We successfully obtained rabbit monoclonal antibodies targeting SARS-CoV-2 key antigen, spike protein, with blocking functions.

JIAHUI WANG, Director of R&D,  
**Sino Biological Europe**



**Solution Provider Presentation:  
Considerations For Optimizing High-Throughput Synthesis  
Of SARS-CoV-2 Peptides For Epitope Analysis**

PEPTIDES CHEMISTRY

The speed and flexibility of peptide synthesis is a major advantage when handling rapidly evolving conditions, such as SARS-CoV-2 infection and vaccine development. These applications demand high peptide purity and yield, and the ability to quickly synthesize many peptides in parallel for timely treatment. Here we present examples of how peptide-based epitopes and therapeutics are synthesized for COVID-19 and neoantigen applications.

- Here we present examples of how peptide-based epitopes and therapeutics are synthesized for COVID-19 and Neoantigen applications, as well as GLP-1 agonists therapeutics for type-2 diabetes treatments
- Understand how peptide syntheses are optimized through reagent and condition screening
- Consider which factors are important for the manufacture of clinical peptides under cGMP conditions

LUKASZ FRANKIEWICZ, Senior Product Specialist (EMA),  
**Gyros Protein Technologies**



Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass

DAY ONE: 26 APRIL 2021

**Industry Presentation:**  
**The Application Of Ribosome Display To Optimise 'Hard To Mature' Antibody Clones**

ENGINEERING

The in vitro affinity and/or functional maturation of naïve antibodies is common practice. In most cases, targeted introduction of sequence diversity into a limited number of complementarity determining region (CDR) loops coupled with selection for improved variants through phage or ribosome display is sufficient to deliver the required affinity or functional improvements. Occasionally, 'hard to mature' clones are seen that are inherently intractable to optimisation, necessitating a more heuristic, unbiased approach to achieve the desired improvements. In this talk, I will describe the use of ribosome display to optimise these 'hard to mature' clones, using the affinity optimisation of an inhibitory antibody to human Arginase 2 as a case study. This work exemplifies the application of novel Shuffle and Shuffle/StEP libraries as well as pool maturation and error-prone libraries to deliver significant improvements in potency, affinity and mode of binding, that would not be achievable through more conventional methods.

MARK AUSTIN, Group Leader Display Technology, AstraZeneca

**Industry Presentation:**  
**Solving Complex Biologics Truncation Problems By Top-Down Mass Spectrometry**

BIOANALYSIS

- Analytical challenges upon the development of non-mAb biologics
- Truncation is an emerging issue for manufacturing of non-mAb drug substances and requires sophisticated methods to investigate.
- A novel workflow to characterize truncation drug substances, combining Top-Down mass spectrometry

YANG YANG, Principle Scientist, Novartis

**Industry Presentation:**  
**Chromatographic Peptide Purification For Progressing Early Drug Discovery Projects**

PEPTIDES CHEMISTRY

- Chromatographic purification is essential for delivery of potential therapeutic peptides
- For peptides with complex impurity pattern from the sequential solid-phase synthesis, chromatographic methods must be optimized to meet the required purity
- Special requirements of peptides for in vivo studies must be considered
- Assessing the potential of different methods and techniques for peptide purification

LINDA THUNBERG, Associate Principal Scientist, AstraZeneca

**Morning Break & '4-Minute Mingles'**

Ever bump into someone at an event and end up having a great conversation? Take part in our 4-minute mingles, where you're matched with other attendees for a short 1-on-1 video call. You can take part in as few or as many of these chats as you would like across the break, maximising your networking opportunities at the conference

**Solution Provider Presentation:**  
**Combating COVID-19: Identifying A Potential Drug Candidate For Human Testing In 90 Days**

ENGINEERING

- In three weeks, AbCellera discovered, characterized and selected hundreds of antibodies against SARS-CoV-2 from one of the first U.S. patients to recover from COVID-19
- AbCellera's technology stack combines AI-assisted high-throughput single B cell screening with immune repertoire profiling of natural immune responses
- Bioinformatic analysis of the resulting panels of antibodies allowed for the rapid characterization of neutralizing antibodies and the identification of therapeutic lead candidates including bamlanivimab

STEFANIE ŽENTELIS, Research Scientist, AbCellera



**Industry Presentation:**  
**Panning For Potent Antibiotics And Delivering Them With Antibodies**

ENGINEERING

- Screening a focused library for MRSA leads
- Antibiotic optimization and linker-payload design
- In vitro screening of antibiotics and ADCs
- Lead ADC in vivo efficacy

THOMAS NITTOLI, Senior Director, R&D Chemistry Therapeutic Proteins, Regeneron

**Industry Presentation:**  
**Keeping Pace With The Increasing Complexity Of Multispecific Biotherapeutics: Bioanalysis And Engineering Of Mispairing**

BIOANALYSIS

- Sanofi Large Molecule Research Platform and modality space
- Analytical strategies to characterize mispairing
- Engineering toolbox to overcome mispairing
- Show case of isobaric mispairing

MELANIE FISCHER, Head of Assays and Analytics, Biologics Research, Sanofi

**Industry Presentation:**  
**IgE Class Antibodies For Cancer Immunotherapy**

ENGINEERING

- Monoclonal antibodies approved for the treatment of cancer are designed of the IgG class
- IgE, an antibody class known to exert immunological effects in tissues via very high affinity for cognate Fc receptors; these attributes may help to recruit and activate immune cells against tumours
- We demonstrated that IgE can kill tumours by harnessing known immunological mechanisms it naturally employs in parasite clearance
- IgE potentiated monocyte and macrophage recruitment and the re-education of alternatively-activated wound healing macrophages to anti-tumour phenotypes

SOPHIA KARAGIANNIS, Professor of Translational Cancer Immunology and Immunotherapy, King's College London

**Industry Presentation:**  
**The Challenge Of Controlling High Mannose Glycans In Therapeutic mAbs**

BIOANALYSIS

- mAbs are currently the prime focus in biopharmaceutical drug development - Glycosylation is a critical quality attribute for mAbs because their clinical efficacy and safety are significantly affected by their glycosylation profile, which is generally heterogeneous, profoundly dependent on the manufacturing process, and thus prone to variations depending on cell culture conditions
- As opposed to endogenous IgGs, marketed therapeutic mAbs contain higher levels of high mannose glycans, which can affect efficacy, pharmacokinetics, and stability
- Current trends in biopharmaceutical manufacturing, such as process intensification and the rise of biosimilars, emphasize the need for a thorough understanding of the cellular processes as well as the biotechnical process aspects that govern the production of high mannose type N-glycans, in order to establish robust manufacturing processes

HORST BIERAU, Senior Scientific Advisor Merck Serono S.p.A.

# Biologics Europe: **ONLINE**

## LIVE & INTERACTIVE CONTENT SCHEDULE

Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass

### DAY ONE: 26 APRIL 2021

#### Live Q&A Session & Ask The Experts 1

ENGINEERING

11:40 - 12:00

STEFAN DUEBEL, Full Professor and Director, Dept Biotechnology, **Technische Universität Braunschweig**

MARK AUSTIN, Group Leader Display Technology, **AstraZeneca**

THOMAS NITTOLI, Senior Director, R&D Chemistry Therapeutic Proteins, **Regeneron**

JIAHUI WANG, Director of R&D **Sino Biological Europe**

#### Live Q&A Session & Ask The Experts 2

BIOANALYSIS

PAUL WASSMANN, Senior Principal Scientist, **Novartis**

YANG YANG, Principle Scientist, **Novartis**

MELANIE FISCHER, Head of Assays and Analytics, Biologics Research, **Sanofi**

#### Live Q&A Session & Ask The Experts 3

PEPTIDES CHEMISTRY

JOEL RICHARD, Chief Development Officer, **MedinCell**

JACOB KOFOED, Principal Scientist, **Novo Nordisk**

LINDA THUNBERG, Associate Principal Scientist, **AstraZeneca**

LUKASZ FRANKIEWICZ, Senior Product Specialist (EMEA), **Gyros Protein Technologies**

#### Spotlight Presentations

##### 12:00 - 12:10 Spotlight Presentation 1: Express Your Needs

- Protein Engineering
- Production for Research and Development
- Analysis and Characterisation
- Cell Based Assays
- Cell Line and Process Development
- Scale-up and Manufacture

PHILIP CUNNAH, Director of Services, **Rodon Biologics**



##### 12:10 - 12:20 Spotlight Presentation 2: Antibody Design

SCOTT LEWIS, Director, Antibody Division, **Vivitide**



##### 12:20 - 12:30 Spotlight Presentation: Spotlight On New Technologies

CLAUDIA MURAR, Business Development Manager, **Bachem**

ZINA ZOKOURI, Business Development Manager, **Bachem**

SEAMUS WHITE, Business Development Manager, **Bachem**



#### 'Half-Time Huddles'

Join us for our half-time huddles. Whether you'd like to debate the challenges of protein engineering or just grab a coffee and chat to your colleagues, the huddles are the perfect place to catch up with you peers and take a break from the more formal programme. With a number of themed areas (to be confirmed in the run-up to the event) you can drop into group video chats with others that have similar interests, or join a discussion covering something completely different- it's up to you!

#### Lunch Break

#### Solution Provider Presentation: Artificial Intelligence Solutions For Therapeutic Antibodies Discovery

ENGINEERING

- In silico methods combining artificial intelligence, deep learning, and big data approaches for antibody drug discovery
- Algorithms to solve pitfalls of drug discovery process
- Examples of technology on risk assessment analysis, epitope binning, epitope mapping and off-target forecast
- AI-driven solutions for customer through SaaS (Software as a Service)

VINCENT PUARD, Chief Executive Officer, **MABSilico**



#### Solution Provider Presentation: Anti-Idiotypic Antibody Generation And Application In Antibody Drug Development

BIOANALYSIS

- Application of Anti-idiotype Ab
- Generation of Anti-idiotype Ab and Assay Methodology Development Strategy
- Technical Challenges and Solutions

LI CHEN, Associate Director of Biologics Discovery, **GenScript ProBio**



Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
*Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass*

DAY ONE: 26 APRIL 2021

<p>14:00 - 14:20</p>	<p><b>Industry Presentation:</b> Development Of Biophysical Screening Assays For Antibody Developability Assessment</p> <p><i>BIOANALYSIS</i></p> <ul style="list-style-type: none"> <li>• Presentation of new biophysical assays for molecule screening of antibody developability</li> <li>• Particular focus will be on measuring antibody self-association</li> <li>• Snapshots from current collaborations with ETH Zürich and University of Cambridge</li> </ul> <p>NIKOLAI LORENZEN, Director, Biophysics and Formulation, <b>Novo Nordisk</b></p>	<p><b>Workshop:</b> Vaccine Development</p> <p><i>BIOANALYSIS</i></p> <p><b>Presentation 1:</b> Overview Of The Biologics-Based Vaccines And How The Structures Helped Choose The Right Antibodies For Potency In Human</p> <p>PAUL KELLAM, Vice President, Infectious Disease &amp; Vaccines, <b>Kymab</b></p> <hr/> <p><b>Presentation 2:</b> The Future Of Vaccine Analytics</p> <p>BRUCE CARPICK, Global Analytics Expert, Biochemistry, <b>Sanofi Pasteur</b></p> <hr/> <p><b>Panel Discussion:</b> Challenges &amp; Opportunities In Vaccine Development</p> <ul style="list-style-type: none"> <li>• How do we prevent developing a vaccine from scratch?</li> <li>• Global sustainability and distribution of vaccines</li> <li>• How can we predict what we need to prepare for?</li> <li>• Getting the right cost structure for pandemics and how we sustain this through the pandemic periods</li> <li>• Evolving regulatory landscapes</li> <li>• New and emerging bioprocess and analytical technologies</li> <li>• Life-cycle management for commercialized vaccines</li> </ul> <p><b>Moderator:</b> PAUL KELLAM, Vice President, Infectious Disease &amp; Vaccines, <b>Kymab</b></p> <p><b>Panellists:</b> BRUCE CARPICK, Global Analytics Expert, Biochemistry, <b>Sanofi Pasteur</b> WIESLAW SWIETNICKI, Scientist, Ludwik Hirszfeld Institute of Immunology and Experimental Therapy</p>	<p><b>Industry Presentation:</b> Challenges And Solutions To The Development Of An Accelerated Peptide Synthesis Platform</p> <p><i>PEPTIDES CHEMISTRY</i></p> <p>The presentation will describe the development of an accelerated peptide synthesis (APS) enabled by the integration of three critical steps, high throughput solid phase synthesis, rapid purification methods and novel informatics solutions for library enumeration, tracking and registration.</p> <p>Relevant metrics related to parallel synthesis and purification methods will also be presented to illustrate how the continuous improvement of the APS workflow can accelerate peptide discovery programs from library hit confirmation to hit-to-lead and lead optimization.</p> <p>CLAUDIO MAPELLI, Principal Scientist, <b>MSD</b></p>
<p>14:20 - 14:50</p>	<p><b>Roundtable Discussion:</b> Improving Existing Biophysical Binding Using Various Approaches</p> <p><i>ENGINEERING</i></p> <ul style="list-style-type: none"> <li>• Machine learning/AI</li> <li>• Machine learning-based design for antibodies</li> </ul> <p><b>Moderator:</b> PHILIP KIM, Professor, University of Toronto</p>	<p><b>Panel Discussion:</b> Challenges &amp; Opportunities In Vaccine Development</p> <p><i>BIOANALYSIS</i></p> <p>• How do we prevent developing a vaccine from scratch? • Global sustainability and distribution of vaccines • How can we predict what we need to prepare for? • Getting the right cost structure for pandemics and how we sustain this through the pandemic periods • Evolving regulatory landscapes • New and emerging bioprocess and analytical technologies • Life-cycle management for commercialized vaccines</p> <p><b>Moderator:</b> PAUL KELLAM, Vice President, Infectious Disease &amp; Vaccines, <b>Kymab</b></p> <p><b>Panellists:</b> BRUCE CARPICK, Global Analytics Expert, Biochemistry, <b>Sanofi Pasteur</b> WIESLAW SWIETNICKI, Scientist, Ludwik Hirszfeld Institute of Immunology and Experimental Therapy</p>	<p><b>Panel Discussion:</b> Peptide Purification – The Challenges Of Optimization</p> <p><i>PEPTIDES CHEMISTRY</i></p> <p><b>Moderator:</b> CLAUDIO MAPELLI, Principal Scientist, <b>MSD</b></p> <p><b>Panellists:</b> LINDA THUNBERG, Principal Scientist, <b>Astrazeneca</b> ADAM BEARD, Associate Principal Scientist, <b>MSD</b> TOMAS LEEK, Associate Director, <b>AstraZeneca</b></p>
<p>14:50 - 15:10</p>	<p><b>Industry Presentation:</b> Developing Methods And Strategies To Support Product Characterization And Stability Testing For Therapeutic Proteins</p> <p><i>ENGINEERING</i></p> <p>CLAIRE DAVIES, Associate Vice President, <b>Sanofi</b></p>	<p><b>Industry Presentation:</b> The Interplay Of Non-Specific Binding, Target-Mediated Clearance And FcRn Interactions On The Pharmacokinetics And Subcutaneous Bioavailability Of Humanized Antibodies</p> <p><i>BIOANALYSIS</i></p> <ul style="list-style-type: none"> <li>• Exploring the effect of unintended non-specific interactions on the disposition/pharmacokinetics of mAbs whose clearance rates are governed predominantly by FcRn or target mediated drug disposition in cynomolgus monkeys</li> <li>• Evaluating the influence of FcRn interaction on the subcutaneous bioavailability of mAb with diverse physicochemical properties in cynomolgus monkeys and rats</li> </ul> <p>AMITA DATTA-MANNAN, Senior Research Advisor and Clinical Pharmacologist, <b>Eli Lilly</b></p>	<p><b>Industry Presentation:</b> Late-Stage Functionalization Of Peptides: A Radical Way Towards Site-Selective Modifications</p> <p><i>PEPTIDES CHEMISTRY</i></p> <ul style="list-style-type: none"> <li>• Introduction to the field of LSF of peptides</li> <li>• Late-Stage Functionalization of Unprotected Peptides at Histidine</li> </ul> <p>ANAÏS NOISIER, Senior Research Scientist, <b>AstraZeneca</b></p>
<p>15:10 - 15:30</p>	<p><b>Industry Presentation:</b> De Novo Design And Selection Of Antibodies Using A Combination Of Machine Learning And Highly Parallel Screening</p> <p><i>ENGINEERING</i></p> <ul style="list-style-type: none"> <li>• Fully de novo design of H3 loops</li> <li>• Machine learning based methodologies</li> <li>• Selection from custom-designed libraries</li> </ul> <p>PHILIP KIM, Professor, <b>University of Toronto</b></p>	<p><b>Industry Presentation:</b> The Interplay Of Non-Specific Binding, Target-Mediated Clearance And FcRn Interactions On The Pharmacokinetics And Subcutaneous Bioavailability Of Humanized Antibodies</p> <p><i>BIOANALYSIS</i></p> <ul style="list-style-type: none"> <li>• Exploring the effect of unintended non-specific interactions on the disposition/pharmacokinetics of mAbs whose clearance rates are governed predominantly by FcRn or target mediated drug disposition in cynomolgus monkeys</li> <li>• Evaluating the influence of FcRn interaction on the subcutaneous bioavailability of mAb with diverse physicochemical properties in cynomolgus monkeys and rats</li> </ul> <p>AMITA DATTA-MANNAN, Senior Research Advisor and Clinical Pharmacologist, <b>Eli Lilly</b></p>	<p><b>Industry Presentation:</b> Automated Mass Directed Reverse Phase Purification Of Peptide Libraries For Drug Discovery</p> <p><i>PEPTIDES CHEMISTRY</i></p> <ul style="list-style-type: none"> <li>• Purification of libraries of novel cyclic peptides and peptidomimetics for drug discovery</li> <li>• Reversed phase purification with C18 stationary phase and ACN/Water/TFA or NH4OH mobile phase</li> <li>• Automated focused gradient selection</li> <li>• Streamlined LIMS with web portal for workflow and data management</li> <li>• Automated weighing, dissolution, QC, registration, and hand-off to assay performed by separations scientist</li> </ul> <p>ADAM BEARD, Associate Principal Scientist, <b>MSD</b></p>



Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
*Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass*

DAY ONE: 26 APRIL 2021

**Live Q&A Session & Ask The Experts 1**

ENGINEERING

15:30 - 15:50  
SOPHIA KARAGIANNIS, Professor of Translational Cancer Immunology and Immunotherapy, **King's College London**  
VINCENT PUARD, Chief Executive Officer, **MABSilico**

**Live Q&A Session & Ask The Experts 2**

BIOANALYSIS

CLAIRE DAVIES, Associate Vice President, **Sanofi**  
NIKOLAI LORENZEN, Director, Biophysics and Formulation, **Novo Nordisk**  
LI CHEN, Associate Director of Biologics Discovery, **GenScript ProBio**

**Roundtable Discussion: Synthetic Vs. Natural Immune Libraries: Pros And Cons**

ENGINEERING

- Key differences and how they can affect antibody performance
- Is either approach always better?
- Use cases and advantages of synthetic libraries

**Moderator:**

JESSICA KAPLUNOV, Business Development Manager EMEA, **Biopharma Twist Bioscience**



**Roundtable Discussion: AI For Biologics Drug Discovery, Myth Or Reality?**

BIOANALYSIS

- Introduction to AI for antibody drug discovery
- MABSilico's solutions using AI and ML
- How AI is used for drug discovery, feedbacks from early adopter

**Moderators:**

VINCENT PUARD, Chief Executive Officer, **MABSilico**  
THIBAUT CHAUFFERT, Business Developer, **MABSilico**  
AUREORE MORELLO, Scientist, OSE **Immunotherapeutics**



**Roundtable Discussion: Screening B- Or T-Cell Answers – Joining Different Approaches**

ENGINEERING

The speaker will present the SARS-CoV-2 mutation antigen arrays, giving an idea how we monitor here the B cell answer and how it may be expanded to the T-cell level on our platform and have a discussion for other technologies to combine with.

**Moderators:**

GÜNTHER ROTH, Chief Executive Officer, **BioCopy**  
GÜNTHER PROLL, Senior Scientist, **BioCopy**



**Industry Presentation: Scaffold Selection For Protein-Protein Interaction Inhibition: Are There Any General Principles?**

PEPTIDES CHEMISTRY

A diverse set of peptides and non-immunoglobulin binding proteins has emerged as alternative to antibodies for protein-protein interactions interference. Generally small (<100 amino acids) these binding proteins and peptides are based on diverse scaffolds; carefully selected loops or amino-acid positions are the subject of directed evolution for affinity and specificity optimization. Projects in the pharma industry face now the challenge of the choice of the best scaffold for achieving their goals. In this talk I will present an analysis based on publicly available data aiming at facilitating that decision. I will explore and compare the "binding space" of antibodies and alternative scaffolds focusing on binding affinities, buried surface areas and epitope characteristics. I will highlight differences and similarities and attempt to draw some general principles of use in the scaffold selection process.

LEONARDO DE MARIA, Principal Scientist, **AstraZeneca**

**Solution Provider Presentation: Writing The Future Of Biologics Using The Twist Biopharma Library Of Libraries**

ENGINEERING

Utilizing its proprietary DNA technology to write synthetic libraries, Twist Biopharma provides end-to-end antibody discovery libraries including both (1) highly diverse synthetic naïve antibody phage display libraries and (2) target class specific antibody phage display libraries against difficult-to-drug targets. In this talk, Aaron Sato, CSO, will present several POC data on each member of their Library of Libraries. For some of the targets, the power of selecting multiple libraries against each target will be highlighted.

AARON SATO, Chief Scientific Officer, **Twist Bioscience**



**Roundtable Discussion: Multiple-Attribute Method Deployment And Routine Operation: Are We There Yet?**

BIOANALYSIS

- Why is the industry driving the use of LC-MS as a released method for biotherapeutics ?
- What are the main barriers to deploy multi-attribute methods in QC and bioprocess?
- What benefits does the method need to bring to encourage adoption?
- Who drives the implementation of new technology for release testing and are the key stakeholders aligned?

**Moderators:**

LAETITIA DENBIGH, Biopharmaceutical Regional Marketing Manager, Europe, **Waters Corporation**  
ANGELO PALMESE, Head Of Characterization & Innovative Analytics Unit, **Merck**



**Roundtable Discussion: Peptide Therapeutics: High Throughput Synthesis And Purification**

PEPTIDES CHEMISTRY

- How do chemists approach designing of the synthesis for a synthetic peptide?
- How can syntheses be optimized?
- What are the challenges faced after synthesis, during purification? How can Peptide Easy Clean Technology help?

**Moderators:**

LUKASZ FRANKIEWICZ, Senior Product Specialist, **Gyros Protein Technologies**  
ANDREW KENNEDY, Global Product Manager (Peptides Business), **Gyros Protein Technologies**  
ROBERT ZITTERBART, Co-Founder, Head of R&D, **Belyntic GmbH**



# Biologics Europe: **ONLINE**

## LIVE & INTERACTIVE CONTENT SCHEDULE

Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
*Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass*

### DAY ONE: 26 APRIL 2021

#### Roundtable Discussion: Advanced Delivery Approaches For Biologics

ENGINEERING

17:10  
-

17:40

AMITA DATTA-MANNAN, Senior Research Advisor and Clinical Pharmacologist,  
Eli Lilly

#### Live Q&A Session & Ask The Experts 1

ENGINEERING

17:40

-

18:00

PHILIP KIM, Professor,  
University of Toronto  
AARON SATO, Chief Scientific Officer,  
Twist Bioscience  
JOHN KELLIE, Scientific Leader & Fellow, GlaxoSmithKline

#### Live Q&A Session & Ask The Experts 2

PEPTIDES  
THERAPEUTICS

LEONARDO DE MARIA, Principal Scientist,  
AstraZeneca  
CLAUDIO MAPELLI, Principal Scientist,  
MSD  
ADAM BEARD, Associate Principal Scientist,  
MSD  
ANAÏS NOISIER, Senior Researcher,  
AstraZeneca

18:00

End of Day One

### DAY TWO: 27 APRIL 2021

#### Industry Presentation: NEO X' - Neoantigen X-Presentation- Inducing Bispecific CD40 Antibody That Enhance Tumor Specific T Cell Priming

BISPECIFICS

08:30

-

08:50

- Neo-X' is a platform of bispecific antibodies been generated by Alligator to enable antigen presenting cells to efficiently enhance priming of neoantigen-specific T cells
- Bispecific antibodies targeting CD40 and tumor antigens have been built using Alligator's RUBY™ format
- Data from preclinical models supporting the Neo-X' concept will be presented
- Neo-X' bsAbs induce significantly better anti-tumor efficacy than the combination of the corresponding monospecific antibodies in a hCD40tg mouse model

PETER ELLMARK, Vice President, Discovery,  
Alligator Biosciences

#### Industry Presentation: Challenges Associated With Making Target Proteins For Target Discovery

PROTEIN  
EXPRESSION

RICK DAVIES, Associate Director,  
AstraZeneca

#### Industry Presentation: BT7480, A Fully Synthetic Tumor Targeted Immune Cell Agonist (TICATM) Engages CD137 To Induce Immunologic Elimination Of Nectin-4 Expressing Tumors

PEPTIDES  
THERAPEUTICS

- Bicycles® are bicyclic peptides constrained via a chemical scaffold, which confers structural stability leading to high affinity and selectivity
- Using phage display, Bicycles have been discovered to both tumor cell and immune cell targets and using synthetic chemistry have been affinity optimized and assembled in a modular fashion to generate tumor targeted immune cell agonists (TICATM) that simultaneously engage cell-surface targets overexpressed on tumour cells and costimulatory receptors on immune cells
- BT7480 is a Nectin-4/CD137 TICA that precisely activates immune cells in the presence of Nectin-4 positive tumor cells, and results in the secretion of pro-inflammatory cytokine such as IL2 and IFN
- In vivo, dosing of BT7480 activates immune cells in the tumors of mice, resulting in potent anti-cancer immunity despite relatively short plasma exposures
- BT7480 represent the first in a new generation of fully synthetic peptide-based immune modulatory anti-cancer agents

KEVIN MCDONNELL, Vice President, Chemistry US,  
Bicycle Therapeutics

Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
*Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass*

**DAY TWO: 27 APRIL 2021**

08:50  
-  
09:10

**Industry Presentation:**  
**Multiclonics Antibody Platform For Discovery Of Novel Therapeutics**

BISPECIFIC

- Multispecific antibodies
- Common light chain
- Unbiased screening

RINSE KLOOSTER, Director, Antibody Discovery,  
**Merus**

**Industry Presentation:**  
**From Model Organism And Cooking Ingredient To A Production System For Neutralizing Antibodies**

PROTEIN EXPRESSION

N-glycan engineering Engineering of ER morphology and function Neutralizing antibody Baker's yeast.

ALEXANDER FREY, Associate Professor,  
**Aalto University**

**Industry Presentation:**  
**Discovery Of Bioactive Peptides And Peptide-Based Drug Design**

PEPTIDES THERAPEUTICS

Our work focuses on the discovery of cyclic peptides in plants and their applications in drug design and agriculture. We have a particular interest in a family of proteins called cyclotides, which comprise ~30 amino acids and incorporate three disulfide bonds arranged in a cystine knot topology, which makes them exceptionally stable. Cyclotides occur in all plants from the Violaceae family and in certain plants from the Rubiaceae, Cucurbitaceae, Solanaceae and Fabaceae, where they are present as host defence agents against insects and nematodes. A single plant may contain dozens to hundreds of cyclotides expressed in a wide range of tissues, including leaf, flower, stem and roots. Their stability and compact structure makes cyclotides an attractive protein framework onto which bioactive peptide epitopes can be grafted to stabilise them. Because plants produce cyclotides in large quantities (up to 2g/kg plant weight) we are using crop plants as expression systems for the production of pharmaceutically active cyclotides. This presentation will give an overview on the discovery, biosynthesis and applications of cyclotides and also describe the use of transgenic plants as vehicles for the production of cyclotide-based drug leads for cancer, cardiovascular disease and pain.

DAVID CRAIK, Professor,  
**University of Queensland**

09:10  
-  
09:40

**Roundtable Discussion:**  
**Q&A For Anti-ID Abs Generation And PK/ADA Kit Development**

- Why do we use hybridoma instead of phage display method to generate anti-ID Abs?
- How can we know the different type of anti-id from hybridoma approach?
- What criteria do PK/ADA kits need to meet if they are to be used in the clinical phase?

**Moderator:** LI CHEN, Associate Director of Biologics Discovery,  
**GenScript ProBio**



**Solution Provider Presentation:**  
**Right First Time: Optimize And De-Risk Your Early Development Journey**

PROTEIN EXPRESSION

Advancing your drug or vaccine candidate from late-stage discovery into the clinic is one of the most critical steps in development. This is the phase when you make key decisions that will have long-term scientific and business impact, frequently under extreme time and cost pressure. For example, developability and manufacturability issues can arise due to post-translational modifications and aggregation, and immunogenicity risks due to the presence of T-cell epitopes. To maximize your chances of success, it is essential to de-risk your candidates as early as possible. This presentation will describe how in silico and in vitro protein design and optimization tools can help you to identify and mitigate manufacturing, development and immunogenicity risks, to reduce attrition and to improve the quality and safety of your therapeutic proteins.

NOEL SMITH, Head of Immunology,  
**Lonza**



**Workshop:**  
**Sartorius, Welcome Our Guest Speaker With An In-Depth Presentation On Optimers™ And Discover The Brand New Octet® R Series**

PROTEIN EXPRESSION

**Presentation 1:**  
**Futureproofing Your Lab For High Productivity And Accurate Characterization Of Biologics: From Early Selection To Validation To Biotherapeutics Manufacturing**

- Discover the fluidics-free industry standard for label-free analysis
- Learn about high-quality protein kinetics and quantitation in real-time
- Adapt maximum productivity and scalable throughput with a novel modular approach

PAYAL KHANDELWAL, Head of Product Management, Protein Analysis,  
**Sartorius BioAnalytical Instruments, Inc.**

**Presentation 2:**  
**Using Optimizer Binders To Improve The Affinity Purification Of Novel Biologics**

- Optimizer binders are synthetic nucleic acids for use as affinity ligands to purify novel biologics and improve current processes. Isolated from large degenerate libraries, they can bind to a range of protein and viral targets to purify novel biologics or improve current purification processes
- We have demonstrated the application of Optimizers in tailored affinity purification of a range of targets, including vaccine targets, serum proteins, and multi-domain proteins
- Customized binding conditions used during the Optimizer selection process allow optimized binding parameters for affinity purification, including rapid 'on-rates', slow 'off-rates' and induced release under mild buffer conditions. This prevents denaturation of the target to improve the final yield of functional product

DAVID BUNKA, Chief Technology Officer,  
**Aptamer Group**



09:40  
-  
10:10



*Attendees are welcome to attend co-located sessions*

**Solution Provider Presentation:**  
**Strategies And Tools To Maximize Successful Development Of Cell Lines Expressing More Complex Proteins**

PROTEIN EXPRESSION

- Next Generation Biologics (NGBs) can include engineered elements not previously seen in nature and as a result, may not express well in traditional expression platforms
- A toolbox of approaches and solutions are required to aid expression of these molecules
- In this presentation, we will discuss how the GS® Toolbox and cell line development strategies can help overcome these expression challenges

ALISON PORTER, Head of Expression Systems, Licensing,  
**Lonza**



Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
*Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass*

DAY TWO: 27 APRIL 2021

**Panel Discussion:**  
**Bispecific Antibodies Come To The Fore**

BISPECIFICS

Bispecifics (bsAbs) are a versatile class of targeted therapeutics designed to bind two different sites entering clinical studies in record numbers, with a majority developed to fight cancer.

- More than 20 bsAb constructs are currently approved or in clinical trials. Should the industry narrow down the bispecific formats possible?
- Are the development hurdles of bsAbs being addressed sufficiently?
- Bispecific molecules are in the clinic for many indications. What disease settings are the most promising outside oncology?
- Recent and future developments
- Overcoming the challenges in platform development
- Finding the right binders
- Translational models to evaluate efficacy and safety
- Indication selection

**Moderator:** PETER ELLMARK, Vice President, Discovery, **Alligator Biosciences**

**Panellists:**

CHRISTIAN KLEIN, Department Head Cancer Immunotherapy 3, **Roche Glycart AG**

SHANE OLWILL, Senior Vice President, Head of Translational Science, **PIERIS**

SARAH STUART, HTC Team Leader, **GlaxoSmithKline**

HELGE SCHNERR, Global Marketing, **Sartorius Corporation**

**SARTORIUS**

**Roundtable Discussion:**  
**Recombinant Protein Production For Drug Discovery**

PROTEIN EXPRESSION

**Moderator:** RICK DAVIES, Associate Director, **AstraZeneca**

**Roundtable Discussion:**  
**Peptide Delivery And The New Perspectives Offered By Oral Peptides Vs Long Acting Injectables With New Oral Formulations Recently Approved By FDA (Rybelsus®, Mycapssa®)**

PEPTIDES THERAPEUTICS

**Moderator:** JOEL RICHARD, Chief Development Officer, **MedinCell**

**Spotlight Presentation:**  
**GEX And CHO Expression – Feasibility Studies To Identify The Best Host Cell**

- CHOnamite® and GlycoExpress® platform technologies
- Meet productivity and quality goals
- Difficult to express protein

LARS STÖCKL, Service Devison Manager, **FyoniBio**

**Fyoni Bio**  
Service Branch of Glycotope

PROTEIN EXPRESSION

**Industry Presentation:**  
**Costimulatory scTNFSF Ligands As Building Blocks For Bispecific Fusion Proteins**

PROTEIN EXPRESSION

- The engineering concept of scTNFSF-ligands in different bispecific formats will be presented
- Immune-stimulatory scTNFSF-ligands can be combined with any antibody of interest in a bispecific drug compound
- Examples demonstrating the biological activity of scCD40L or sc4-1BBL in combination with anti-PD-L1 will be shown

KATHARINA BILLIAN-FREY, Head, Protein Engineering, **ApoGenix**

**Industry Presentation:**  
**GEN-009: The Complexities Of Manufacturing A Personalized Neoantigen Cancer Vaccine**

PEPTIDES THERAPEUTICS

- Genocoea's GEN-009 program has shown the potential therapeutic benefits of Personalized Neoantigen Cancer Vaccines
- Manufacturing Personalized Therapeutics brings forth tremendous complexities
- Manufacturing and Supply chain logistics, Billions & Billions of possible APIs, complex QC methods, Scaling-Out vs Scaling-up

DANIEL DEOLIVEIRA, Senior Director, Tech. Ops, Peptide Development & Manufacturing, **Genocoea Bioscience**

**Solution Provider Presentation:**  
**Robust Stable Cell Line Platform For Biologics Development**

PROTEIN EXPRESSION

- Cell line development plays an essential role in drug development
- Consideration for cell line development, such as host cell line selection, vector engineering, clone selection and monoclonality
- Case study for different molecules

HONGXING SHI, Associate Director of Cell Strain Development, **GenScript ProBio**

**GenScript**  
Make Research Easy

10:10  
-  
10:40

10:40  
-  
10:50

10:50  
-  
11:10

11:10  
-  
11:40

Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
*Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass*

**DAY TWO: 27 APRIL 2021**

**Industry Presentation:**  
**The Selective Elimination Of Tumor Tregs By A Bispecific SNIPERTM Antibody Delivers A Strong Anti-Tumor Activity**

BISPECIFICS

11:40  
-  
12:00

INV321 is a bispecific antibody that selectively targets intratumoral regulatory T-cells to selectively diminishes the immunosuppressive tumor micro-environment. In vivo studies in tumor models revealed a dramatic reduction in Tregs in the tumors, with no change in the periphery. In addition, the levels of CD4+ and CD8+ T cells within the tumors was increased leading to high Teff/Treg ratios.  
A majority of the mice show complete response, recovery and immune memory after a single dose monotherapy in multiple tumor models.

**BRYAN GLASER**, Vice President, Business Development,  
**Invenra**

**Live Q&A Session & Ask The Experts 1**

BISPECIFICS

12:00  
-  
12:30

**PETER ELLMARK**, Vice President, Discovery, **Alligator Biosciences**  
**RINSE KLOOSTER**, Director, Antibody Discovery,  
**Merus**  
**BRYAN GLASER**, Vice President, Business Development,  
**Invenra**  
**DAVID CRAIK**, Professor,  
**University of Queensland**

**Live Q&A Session & Ask The Experts 2**

PROTEIN EXPRESSION

**RICK DAVIES**, Associate Director,  
**AstraZeneca**  
**ALEXANDER FREY**, Associate Professor,  
**Aalto University**  
**KATHARINA BILLIAN-FREY**, Head, Protein Engineering,  
**Apogenix**  
**NOEL SMITH**, Head of Immunology,  
**Lonza**  
**HONGXING SHI**, Associate Director of Cell Strain Development,  
**GenScript ProBio**

**Networking Break & 'Half-Time Huddles'**

12:30  
-  
12:50

*Join us for our half-time huddles. Whether you'd like to debate the challenges of protein engineering or just grab a coffee and chat to your colleagues, the huddles are the perfect place to catch up with you peers and take a break from the more formal programme. With a number of themed areas (to be confirmed in the run-up to the event) you can drop into group video chats with others that have similar interests, or join a discussion covering something completely different- it's up to you!*

12:50  
-  
13:30

**Lunch Break**

**Roundtable Discussion:**  
**Bispecific T Cell Engagers – Addressing The Challenges**

BISPECIFICS

13:30  
-  
14:00

- How do you choose a bispecific format (1+1, 2+1, 2+2, etc)?
  - » Does one size fit all?
  - » How does target expression levels impact decisions?
  - » How to choose an Anti-CD3 (affinities, cross-reactivities, etc)?
  - » What do in vivo animal models tell us?
  - » How to pick the best animal model/immune system (Syngeneic, CD3 KI, PBMC vs CD34+ humanization, etc)?
  - » What does that anti-tumor response mean?
  - » What about solid tumors?
- What is next for T-cell redirecting Bispecifics?
  - » Activation of costimulatory pathways (4-1BB, CD28, etc)?
  - » Improving specificity through masked CDRs, Trispecifics, etc.
  - » Combinations with other agents
  - » Others?

**Moderator:**  
**BRYAN GLASER**, Vice President, **Invenra**

**Roundtable Discussion:**  
**Next Generation Antibody Discovery Platforms Challenges And Opportunities**

ENGINEERING

14:00  
-  
14:30

- What are the most challenging bottlenecks in antibody discovery pipelines?
- What are the pros and cons of the following discovery approaches: 1) display-based approaches, 2) natural immune systems, 3) in silico generated antibodies?
- Novel targets and modalities — what are the most productive strategies to identify lead molecules for next generation biologics?

**Moderator:** **KEVIN HEYRIES**, Co-founder & Head of Business Development, **Abcellera**



Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass

DAY TWO: 27 APRIL 2021

**Industry Presentation:**  
Next Generation Bispecific  
Antibodies For Cancer  
Immunotherapy

BISPECIFICS

- Next generation T cell bispecific antibodies and 4-1BB agonistic fusion proteins for cancer immunotherapy
- Next generation immunocytokines and their application

CHRISTIAN KLEIN, Department Head Cancer Immunotherapy 3,  
**Roche Glycart AG**

**Workshop:**  
Structural Biology Aiding Antibody  
Discovery

PROTEIN EXPRESSION

**Presentation 1:**  
Working With Challenging Membrane  
Protein Targets In Native Lipid  
Environments For High Resolution  
CryoEM And Antibody Discovery

- Membrane protein sample preparation in structure biology
- Salipro DirectMX™ for purification and characterization of human wild type GPCR and TRP ion channel
- Antibody discovery by immunization and B-cell sorting, as well as in vitro display technologies against drug targets formulated in Salipro®
- Structural epitope mapping using Salipro® and Cryo-EM

ROBIN LÖVING, Chief Scientific Officer, **Salipro Biotech AB**

**Presentation 2:**  
Cutting Edge Structural Biology Updates:  
Complementarity Of Crystallography  
And Cryo-EM In Structure-Based Drug  
Design

MACK FLINSPACH, Director, Structural Biology,  
**Takeda**

**Presentation 3:**  
Structure Based De-Immunization Of  
Antibodies

VINCENT MIKOL, Head of Translational Sciences,  
**Sanofi**

**Panel Discussion:**  
Structural Biology Techniques Applied  
To Antibody Discovery

- Addressing Cryo EM challenges: data collection and data processing
- Crystallography
- Get structures rapidly enough to support candidate selection & lead optimization

**Moderator:** MACK FLINSPACH, Director,  
Structural Biology, **Takeda**

**Panellists:**

VINCENT MIKOL, Head of Translational  
Sciences, **Sanofi**

ROBIN LÖVING, Chief Scientific Officer, **Salipro Biotech AB**

HORACIO NASTRI, Executive Director of  
Antibody Discovery, **Incyte**

Delegates are welcome to attend other co-located presentations.

**Industry Presentation:**  
A Novel Anti-LILRB4/CD3 Bispecific  
Antibody For AML

BISPECIFICS

- LILRB4 is a compelling new target expressed in monocytic AML and other hematologic malignancies with no expression on hematopoietic stem cells
- In addition to IO-202, a clinical-stage LILRB4 antagonist antibody with potential in hem-onc and solid tumor indications, Immune-Onc has engineered novel IgG-like LILRB4/CD3 bispecifics
- In vitro killing assays and in vivo xenograft models show promise of the bispecific approach for AML and other hem-onc malignancies

RYAN STAFFORD, Senior Director, Antibody  
Engineering,  
**Immune-Onc**

**Industry Presentation:**  
A Case Study Of The Process  
Optimization Of Peptide API  
Manufacturing By QbD

PEPTIDES THERAPEUTICS

- Process Manufacturing Optimization through DMAIC Circle
- 1) Low yield
- 2) Low productivity
- 3) Critical Impurity
- 4) Process robustness

YI YANG, Lead Scientist,  
**Ferring Pharmaceuticals**

**Industry Presentation:**  
Enhancing Efficacy And Safety Of  
4-1BB Agonism With PRS-343, A Tumor-  
Targeted Bispecific

BISPECIFICS

SHANE OLWILL, Senior Vice President, Head of  
Translational Science, **PIERIS**

**Industry Presentation:**  
Using LPS-Binding Peptides To  
Detect Endotoxins

PEPTIDES THERAPEUTICS

DIRK LINKE, Professor of Microbiology,  
**University of Oslo**

**Live Q&A Session & Ask The Experts 1**

BISPECIFICS

CHRISTIAN KLEIN, Department Head Cancer Immunotherapy 3,  
**Roche Glycart AG**  
RYAN STAFFORD, Senior Director, Antibody Engineering,  
**Immune-Onc**  
SHANE OLWILL, Senior Vice President, Head of Translational Science,  
**PIERIS**

**Live Q&A Session & Ask The Experts 2**

PEPTIDES THERAPEUTICS

KEVIN MCDONNELL, Vice President, Chemistry US,  
**Bicycle Therapeutics**  
YI YANG, Lead Scientist,  
**Ferring Pharmaceuticals**  
DIRK LINKE, Professor of Microbiology,  
**University of Oslo**

14:30  
-

14:50

14:50  
-

15:10

15:10  
-

15:30

15:30  
-

15:50

Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
*Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass*

**DAY TWO: 27 APRIL 2021**

**Industry Presentation:  
An Update On Roche's Bispecific DutaFab Platform**

BISPECIFICS

- DutaFabs allow binding two targets simultaneously on one Fab fragment
- We present data and differentiating features of the DutaFab bispecifics platform
- Example: A VEGF/PDGF bispecific DutaFab (Beckmann R., et al. Nat Comm. 2021 Jan 29;12(1):708.)

MARLON HINNER, Principal Scientist,  
Roche Innovation Center Munich

**Industry Presentation:  
Expression Technologies For  
Enhanced Mammalian Cell Line  
Development**

PROTEIN  
EXPRESSION

ZORICA DRAGIC, Executive Director Cell Line  
Screening and Development,  
Novartis

**Industry Presentation:  
Peptide-Based Approaches For  
Delaying Labour And Improving  
Neonatal Outcomes**

PEPTIDES  
THERAPEUTICS

- Premature birth (<37 weeks gestation) is a costly cause of perinatal mortality and morbidity increasing steadily worldwide
- Current treatments for premature birth reduce contractility of the myometrium (tocolysis) but fail to address the underlying inflammatory processes responsible for labor and inflammation-induced fetal injury
- Employing a novel approach in which receptor-derived peptide fragments are developed into biased allosteric modulators of down stream signalling, labour delaying prototypes have been conceived by targeting the prostaglandin-F2alpha and interleukin-1beta receptors and shown to delay parturition and improve outcomes in models of preterm birth and oxygen-induced retinopathy

WILLIAM LUBELL, Professor,  
Université de Montréal

**Industry Presentation:  
FS222 Is A Tetravalent Bispecific Antibody Designed For  
Optimal T Cell Activation Without Toxicity**

BISPECIFICS

- FS222 is a conditional agonist of CD137 that requires cross-linking through PD-L1 binding on tumour cells
- FS222 binds simultaneously and tetravalently to the targets
- Tetravalent engagement to the targets provides optimal T-cell activation in in-vitro assay

RYAN FIEHLER, Principal Scientist,  
F-star Therapeutics

**Industry Presentation:  
Accelerating Large Molecule Drug Discovery Through  
Purification & Analytics Platform Optimization**

PROTEIN  
EXPRESSION

- A well-integrated automated protein purification and analytics platform greatly enhances speed, efficiency, capacity and data comparability
- Optimized processes and data management systems are critical components of high-throughput automated platforms

KENNETH WALKER, Scientific Executive Director,  
Amgen

**Live Q&A Session &  
Ask The Experts 1**

BISPECIFICS

MARLON HINNER, Principal Scientist,  
Roche Innovation Center Munich  
RYAN FIEHLER, Principal Scientist,  
F-star Therapeutics

**Live Q&A Session &  
Ask The Experts 2**

PROTEIN  
EXPRESSION

KENNETH WALKER, Scientific Executive Director,  
Amgen  
ZORICA DRAGIC, Executive Director Cell Line  
Screening and Development,  
Novartis

**Live Q&A Session &  
Ask The Experts 3**

PEPTIDES  
THERAPEUTICS

WILLIAM LUBELL, Professor,  
Université de Montréal  
DANIEL DEOLIVEIRA, Senior Director, Tech.  
Ops, Peptide Development & Manufacturing,  
Genocea Bioscience

**'4-Minute Mingles'**

*Ever bump into someone at an event and end up having a great conversation? Take part in our 4-minute mingles, where you're matched with other attendees for a short 1-on-1 video call. You can take part in as few or as many of these chats as you would like across the break, maximising your networking opportunities at the conference*

End of Conference

# Oligonucleotides: Chemistry & Therapeutics Symposium

## LIVE & INTERACTIVE CONTENT SCHEDULE

Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.

Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass

All Times Shown are BST (UTC+1)

DAY THREE: 28 APRIL 2021

08:20  
08:30

### Oxford Global's Welcome Address Morning Sessions: Synthesis, Chemistry, Process & Analytical Development

08:30  
-  
08:50

#### Keynote Address: Characterization Of Therapeutic Oligonucleotides In Early Drug Discovery

- Overview of analytical challenges in LC-MS characterization of oligonucleotides in early drug discovery
- Examples illustrating both high-throughput and in-depth characterization of synthetic oligonucleotides

TOMAS LEEK, Associate Director,  
AstraZeneca

08:50  
-  
09:10

#### Industry Presentation: Advancements In Oral Delivery Of Oligonucleotides

- Isolation and biophysical characterization of bovine milk derived extracellular vesicles -in vitro and in vivo investigations to deliver locked nucleic acid (LNA) via the oral administration route

MICHAEL KELLER, Senior Principal Scientist, pRED, pCMC,  
F. Hoffmann - La Roche

09:10  
-  
09:30

#### Industry Presentation: Updates In Liquid Phase Synthesis Of Oligonucleotides

- Synthesis in the liquid phase is achieved by using a membrane for separation of the growing oligo from reaction debris and unreacted building blocks
- Liquid phase synthesis results in higher crude purities and reduces need for complex chromatographic separation
- Liquid phase requires lower building block excess
- Liquid phase processing via membranes is inherently scalable

ANDREW LIVINGSTON, Professor of Chemical Engineering,  
Queen Mary University London

09:30  
-  
10:00

#### Solution Provider Presentation: Technology-Driven Gene Therapy CDMO Business From Oligonucleotide To mRNA

- Company introduction
- ST Pharm's strength & core capability toward seamless drug development
- Technology-driven oligonucleotide & mRNA CDMO business



KYUNGJIN PETER KIM, President and Chief Executive Officer,  
ST Pharma Co Ltd

10:00  
-  
10:20

#### Industry Presentation: Drive To A More Sustainable Synthesis Of Large-Scale Oligonucleotides

Oligonucleotides are a new source of drugs. Eleven drugs have been approved and hundreds of new compounds are under investigation at different stages of research and development for the treatment of diseases including cardiometabolic and central nervous system diseases, which afflict millions of people. Manufacturing of these compounds by the solid-phase synthesis process is limited to ~ 10 kg per batch and is impractical and unsustainable to meet the demand of thousands of kilograms of a single drug each year. A practical and scalable convergent liquid phase synthesis of a full-length antisense oligonucleotide has been developed. This process produced the product with similar impurity profiles as the solid-phase synthesis at hundreds of grams scale. The synthesis design and some key technical breakthroughs to make the synthesis practical for large-scale manufacturing process will be discussed.

XIANGLIN SHI, Head of Oligonucleotide Chemical Development,  
Biogen

10:20  
-  
10:40

#### Live Q&A Session & Ask The Experts

MICHAEL KELLER, Senior Principal Scientist, pRED, Pcmc,  
F. Hoffmann - La Roche

TOMAS LEEK, Associate Director,  
AstraZeneca

ANDREW LIVINGSTON, Professor of Chemical Engineering,  
Queen Mary University London

XIANGLIN SHI, Head of Oligonucleotide Chemical Development,  
Biogen

KYUNGJIN PETER KIM, President and Chief Executive Officer,  
ST Pharma Co Ltd



Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass

### DAY THREE: 28 APRIL 2021

#### **Morning Break, '4-Minute Mingles'**

Ever bump into someone at an event and end up having a great conversation? Take part in our 4-minute mingles, where you're matched with other attendees for a short 1-on-1 video call. You can take part in as few or as many of these chats as you would like across the break, maximising your networking opportunities at the conference

#### **Roundtable Discussion: mRNA Based Therapies - What Next?**

- mRNA as messengers of hope in times of global pandemic
- Gene editing has become a routing scientific tool in vitro and in vivo to address disease; are we ready for the challenges?
- mRNA based protein replacement therapies - on the horizon?

MICHAEL KELLER, Senior Principal Scientist, pRED, Pcmc,  
F. Hoffmann - La Roche

#### **Industry Presentation:**

##### **Mass Spectrometry-Based Impurity Profiling Of Oligonucleotide Therapeutics: From Characterization To Routine Monitoring**

- An overview will be given of how mass spectrometry is applied for the analysis of therapeutics oligonucleotides, in particular for the impurity profiling of the oligonucleotides
- It will be shown how mass spectrometry can be used at the different levels of the development process of the oligonucleotides, going from in depth characterization of oligonucleotides using high resolution mass spectrometry instruments to routine monitoring of specified impurities and degradation products using low resolution mass spectrometry instruments, such as single quadrupole instruments
- Next to this, the benefits and challenges of the use of MS will be highlighted and discussed

DEBBIE DEWAELE, Scientist,  
Janssen Pharmaceuticals - Johnson & Johnson

#### **Industry Presentation:**

##### **The Development Of Antisense Oligonucleotide Therapy In Neuromuscular Disorders**

HAIYAN ZHOU, Principal Investigator, Group Leader,  
University College London

#### **Live Q&A Session & Ask The Experts**

DEBBIE DEWAELE, Analytical Scientist,  
Janssen Pharmaceuticals - Johnson & Johnson

HAIYAN ZHOU, Principal Investigator, Group Leader,  
University College London

#### **Lunch Break**

### Afternoon Sessions: Oligo & miRNA Therapeutics

#### **Industry Presentation:**

##### **New Backbone Chemistry Enhances The Drug-Like Properties Of Stereopure Oligonucleotides In Preclinical Studies**

Chemically modified oligonucleotides hold great promise for treating human disease. Using PRISMTM, Wave Life Sciences' proprietary discovery and drug development platform, we can generate stereopure oligonucleotides—those in which the chiral configuration of backbone linkages (i.e., Rp or Sp) are precisely controlled at each position—to target genetically defined diseases. By investigating the relationships among sequence, chemistry and backbone stereochemistry in stereopure oligonucleotides, we have learned to tune these three parameters to yield oligonucleotides with desirable activity profiles in preclinical models

CHANDRA VARGESE, Chief Technology Officer,  
Wave Life Sciences

#### **Solution Provider Presentation:**

##### **Purifications Of RNA Using Anion Exchange Chromatography**

- Introduction to oligonucleotide purifications
- Case study 1: Purification of pegylated RNA
- Case study 2: Purification of RNA

CECILIA UNOSON, Manager Applications,  
Bio-Works Sweden AB



Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.  
*Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass*

### DAY THREE: 28 APRIL 2021

#### Industry Presentation: Targeted Delivery Of Nucleic Acid Therapeutics

Targeted delivery is important for improving the potency and tolerability of nucleic acid therapeutics (NATS) in the clinic. Recent progress in the delivery of NATS to hepatocytes, pancreatic beta cells and skeletal muscle tissues will be presented.

PUNIT SETH, Vice President,  
**Ionis Pharmaceuticals**

#### Solution Provider Presentation: Chances And Challenges In Oligonucleotide Mass Spectrometers

- The challenges in analysis of oligonucleotides using mass spectrometry will be discussed, especially focusing on single-guide RNA molecules.
- The chances and possibilities of different mass spectrometer will be shown

MICHAEL RÜHL, Laboratory Head Quality Control,  
**BIOSPRING, The Oligo Company**

**Waters**  
THE SCIENCE OF WHAT'S POSSIBLE.™

#### Panel Discussion: Opportunities & Challenges Of Using Oligo And miRNA Therapeutics

**Moderator:** BEN-FILLIPPO, KRIPPENDORFF, Senior Principal Scientist, **F. Hoffmann - La Roche**

##### Panellists:

PUNIT SETH, Vice President, **Ionis Pharmaceuticals**

CHANDRA VARGESE, Chief Technology Officer, **Wave Life Sciences**

STEVE HOOD, Senior Scientific Director, Imaging Expertise Networks, **GlaxoSmithKline**

CHARLES SINCLAIR, Senior Principal Scientist, **Bristol-Myers Squibb**

XIANGLIN SHI, Head of Oligonucleotide Chemical Development, **Biogen**

#### **Afternoon Break & 'Half-Time Huddles'**

*Join us for our half-time huddles. Whether you'd like to debate the challenges of synthesis of oligonucleotides, or just grab a coffee and chat to your colleagues, the huddles are the perfect place to catch up with you peers and take a break from the more formal programme. With a number of themed areas (to be confirmed in the run-up to the event) you can drop into group video chats with others that have similar interests, or join a discussion covering something completely different- it's up to you!*

#### Industry Presentation: Why Doesn't GalNAc Deliver ASOs For HBV Indications?

Reviewing the preclinical and clinical experience with ASOs for HBV Comparing GalNAc and free ASOs Understanding the impact of disease on oligo distribution

STEVE HOOD, Senior Scientific Director, Imaging Expertise Networks,  
**GlaxoSmithKline**

#### **Live Q&A Session & Ask The Experts**

CHANDRA VARGESE, Chief Technology Officer,  
**Wave Life Sciences**

PUNIT SETH, Vice President,  
**Ionis Pharmaceuticals**

STEVE HOOD, Senior Scientific Director, Imaging Expertise Networks,  
**GlaxoSmithKline**

CECILIA UNOSON, Manager Applications,  
**Bio-Works Sweden AB**

MICHAEL RÜHL, Laboratory Head Quality Control,  
**BIOSPRING, The Oligo Company**

Please see the full programme for the conference below. Where possible, sessions will be made available OnDemand after the scheduled times slot.

*Please note: Access to OnDemand sessions will only be available to delegates who purchase a full access pass*

### DAY THREE: 28 APRIL 2021

#### **Industry Presentation:**

#### **A Comprehensive Clinical Comparison Of siRNA And Single Stranded Oligos For The Treatment Of HBV**

BEN-FILLIPPO KRIPPENDORFF, Senior Principal Scientist,  
**F. Hoffmann - La Roche**

#### **Industry Presentation:**

#### **Emergence Of Antisense Oligonucleotides As A Therapeutic Modality In Oncology**

- Significant advances in chemistry have made ASO drugs a reality, however no ASO therapy is currently approved in oncology
- Several features of tumor biology create challenges for the ASO modality in oncology, but there are also significant opportunities for innovation
- Targeting the intratumoral immune system with ASOs represents a broad opportunity to expand the benefit of immuno-oncology to immune-checkpoint resistant patients

CHARLES SINCLAIR, Senior Principal Scientist,  
**Bristol-Myers Squibb**

#### **Industry Presentation:**

#### **Modifications Of Nucleic Acids For Diagnostic And Therapeutic Applications**

- Click Chemistry ligation for the synthesis of long modified DNA and RNA
- Applications of the biocompatible triazole linkages in bacteria and human cells
- Epigenetic and fluorescent Gene synthesis using click ligation
- Preparation of chemically modified sgRNA library for CRISPR gene editing
- Applications of neutral backbones for therapeutic applications

AFAF EL-SAGHEER, Professor,  
**University of Oxford**

#### **Live Q&A Session & Ask The Experts**

BEN-FILLIPPO KRIPPENDORFF, Senior Principal Scientist,  
**F. Hoffmann - La Roche**

CHARLES SINCLAIR, Senior Research Investigator,  
**Bristol-Myers Squibb**

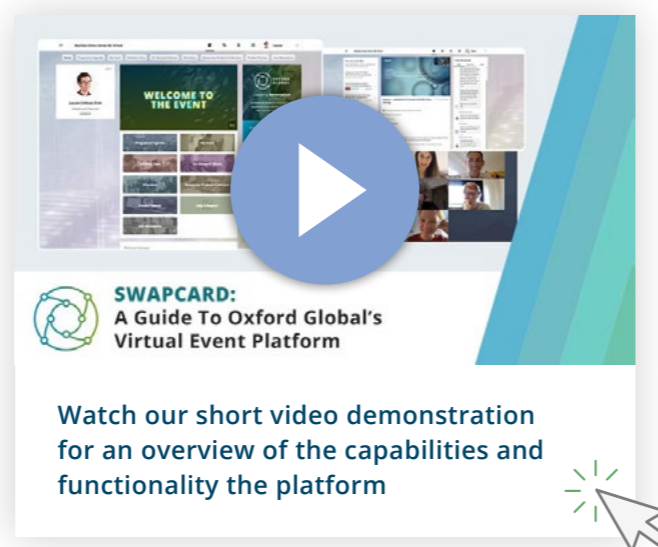
AFAF EL-SAGHEER, Professor,  
**University of Oxford**

**End of Symposium**

## WHAT TO EXPECT – OUR VIRTUAL EVENT PLATFORM

The Biologics Series aims to connect over 7,000 thought-leaders to advance biologics research & development aiding the acceleration of therapeutic use

Powered by our virtual event platform, Swapcard, Biologics Europe: Online has been designed to offer the best in industry news, the latest in cutting-edge research and abundant networking opportunities with a select, relevant community



## Register Online

Passes to the event are available in two tiers – Free Access\* or Full Access.

**BOOK NOW**

\*Free passes are only available to industry R&D or academia.

Feature	Free	Full
Access to live presentations and discussions	✓	✓
Early access to messaging and networking platform features on the virtual platform	2 days prior	1 week prior
Post-event access to messaging and networking features on the virtual platform	7 days	7 days
Access to all on-demand content	✗	✓
Access to presentations post-event	✗	7 days
Priority access to speed networking & discussion sessions	✗	✓
Submit a whitepaper, poster or article into resource centre	✗	✓

### BUILD YOUR PROFILE & EVENT TIMETABLE

Our platform will automatically match you to other attendees with similar interests, the most relevant programme sessions and exhibitors that best fit your requirements. With pre-event access, you can start to make connections and build your event experience before the live programme begins!

### MAKE CONNECTIONS

Use our range of search options or AI-based suggestions to make connections, chat through text or video and schedule meetings with anyone of interest. Exchange contact details, files and links freely to build a wealth of information for use post-event.

### THE PROGRAMME

Build your own agenda with our combination of live & recorded sessions, focused panel discussions, roundtable debates and live inter-active workshops. Utilise full-pass benefits to watch any session at any time with full on-demand access.

### BE PART OF THE COMMUNITY

With a range of live discussions, Q&A's and serendipitous networking opportunities, getting involved in the event couldn't be easier. From submitting a question in text during a presentation to taking part in our randomised speed-networking, you choose how and when to meet and connect with others during the event.

### DISCOVER SOLUTIONS

Connect with our sponsors and exhibitors during the event by searching for specific products, services and solution types. Connect via arranged meetings or direct chat to discuss your requirements and access a wealth of information from each sponsor's page to review their latest offerings.



## FORTHCOMING EVENTS

### Biologics Series

[www.oxfordglobal.co.uk/biologics](http://www.oxfordglobal.co.uk/biologics)

- Biologics Europe: Online**  
26 - 27 April 2021 | BST (UTC+1)
- Oligonucleotides: Chemistry & Therapeutics Symposium**  
28 April 2021 | BST (UTC+1)
- Biologics UK: In-Person**  
06 - 07 September 2021 | London, UK
- Biotherapeutics US: Online**  
17 - 18 November 2021 | EST (UTC-5)

### Biomarkers Series

[www.oxfordglobal.co.uk/biomarkers](http://www.oxfordglobal.co.uk/biomarkers)

- Biomarkers Week: Online**  
17 - 21 May 2021 | BST (UTC+1)
- Advancing Biomarker Analysis Europe: Online**  
14 - 16 September 2021 | BST (UTC+1)
- Biomarkers UK: In-Person**  
08 - 09 November 2021 | Manchester, UK
- Digital Biomarkers US: Online**  
07 - 08 December 2021 | EDT (UTC-4)
- Biomarkers US: In-Person**  
07 - 08 February 2022 | San Diego, USA

### Cell Series

[www.oxfordglobal.co.uk/cell](http://www.oxfordglobal.co.uk/cell)

- Gene Therapy Europe: Online**  
05 - 06 May 2021 | BST (UTC+1)
- Cell UK: In-Person**  
28 - 29 October 2021 | London, UK
- 3D Cell Culture Symposium**  
02 December 2021 | GMT (UTC+0)

### Discovery Series

[www.oxfordglobal.co.uk/discovery](http://www.oxfordglobal.co.uk/discovery)

- Virtual Symposium: Targeted Protein Degradation & PROTAC**  
16 - 17 February 2021 | GMT (UTC+0)
- Organoid Discovery Symposium**  
13 April 2021 | BST (UTC+1)
- Discovery Week: Online**  
01 - 04 June 2021 | BST (UTC+1)
- Discovery UK: In-Person**  
26 - 27 October 2021 | London, UK
- Discovery Chemistry US: Online**  
15 - 16 November 2021 | EST (UTC-5)

### Formulation & Delivery Series

[oxfordglobal.co.uk/formulation](http://oxfordglobal.co.uk/formulation)

- Formulation & Delivery Europe: Online**  
20 - 21 April 2021 | BST (UTC+1)
- RNA Therapeutics & Delivery US: Online**  
29 - 30 June 2021 | EDT (UTC-4)
- Formulation & Delivery UK: In-Person**  
21 - 22 September 2021 | London, UK
- Pharma Manufacturing Europe: Online**  
10 - 11 November 2021 | GMT (UTC+0)
- Formulation & Delivery US: In-Person**  
01 - 02 February 2022 | San Diego, USA

### Immuno Series

[www.oxfordglobal.co.uk/immuno](http://www.oxfordglobal.co.uk/immuno)

- Oncolytic Viruses Symposium**  
25 May 2021 | BST (UTC+1)
- Immuno Week: Online**  
06 - 09 July 2021 | BST (UTC+1)
- Immuno UK: In-Person**  
13 - 14 October 2021 | London, UK
- Immuno US: In-Person**  
07 - 08 February 2022 | San Diego, USA

### NextGen Omics Series

[www.oxfordglobal.co.uk/omics](http://www.oxfordglobal.co.uk/omics)

- Spatial Biology Europe: Online**  
14 - 16 April 2021 | BST (UTC+1)
- Spatial Biology US: Online**  
27 - 30 September 2021 | EST (UTC-5)
- NextGen Omics UK: In-Person**  
04 - 05 November 2021 | London, UK
- NextGen Omics US: In-Person**  
25 - 26 January 2022 | Boston, USA

### PharmaTec Series

[www.oxfordglobal.co.uk/pharmatec](http://www.oxfordglobal.co.uk/pharmatec)

- PharmaTec UK: In-Person**  
08 - 09 September 2021 | London, UK
- Networking Dinner Events**  
October / November / December 2021

In-Person Event
 Online Event
 Online Symposium



## COMPLIMENTARY RESOURCES

Visit [www.oxfordglobal.co.uk/hub/](http://www.oxfordglobal.co.uk/hub/) to gain access to our complimentary resources, including Videos, Webinars Recordings, Q&As, Industry Reports, Newsletters, and much more!



**Oxford Global Marketing Ltd.**

2nd Floor, Godstow Court  
Minns Business Park  
Botley, Oxford, OX2 0JB

Tel: +44 (0)1865 248455  
Fax: +44 (0)1865 250985  
[www.oxfordglobal.co.uk](http://www.oxfordglobal.co.uk)



**Join the Conversation**

@biologicsconf  
#BiologicsSeries21