

September 24-26 | Boston, MA

www.cell-therapies-diabetes.com

REGISTER BY JULY 19TH
TO SAVE \$400



Cell Therapies for Diabetes

**Advance the Clinical Development of
Diabetes Cell Therapies by Exploring
Techniques to Overcome Immune Rejection
& Achieve Scalable Manufacturing
Practices to Change Patients' Lives**

Expert Speakers Include:



Matthias von Herrath
Vice President &
Senior Medical Officer,
Type 1 Diabetes &
Stem Cells
Novo Nordisk



Krister Bokvist
Head of Islet Biology
Sanofi



Amir Lichter
CEO
**Beta-O₂
Technologies**



Kfir Molakandov
Head of Diabetes
Research
Kadimastem



Marine Kraus
Team Leader, Stem
Cells
**Nestle Institute of
Health Sciences**



Tony Ho
Head of Research &
Development
**CRISPR
Therapeutics**



Protect Implanted Cells from a Patients' Alloimmunity and Autoimmunity to Create a Curative Cell Therapy for Diabetes

Despite decades of research, diabetes remains a public health challenge of epidemic proportions. The underlying goal in research and therapy has been the restoration of insulin function and normoglycemia.

The Cell Therapies for Diabetes Summit is focused on optimizing the clinical and commercial development of these cell therapies with improved manufacturing and streamlined logistical strategies to develop curative therapy to improve the lives of millions of patients worldwide.

Bringing together the pioneers of cell therapies for diabetes we will discuss how to **develop assays and biomarkers** in order to enhance cell characterization to **predict clinical translation**, and ultimately **improve efficacy**, providing patients with life changing therapies.

Discuss the membrane microstructure for encapsulation devices to protect implanted cells from a patient's alloimmunity and autoimmunity. Join us, and leading experts from **Novo Nordisk, Nestle, Sanofi, Kadimastem, ViaCyte** and **Beta O₂** as we drive progress towards the future of diabetes care.

■ A perfect meeting with experts and companies involved in cell therapy development - great size meeting which allowed excellent interactions and collaboration opportunities ■

Previous Hanson Wade Conference Attendee

■ Excellent conference with great opportunities to get to know people within the field and form new networks. This meeting bridges the gap between academia and industry ■

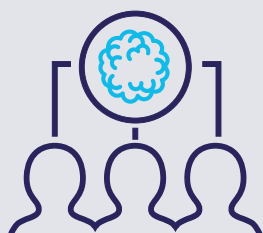
Previous Hanson Wade Conference Attendee

Your Checklist to Advancing Cell Therapies for Diabetes



Evaluate Novel Encapsulation Techniques to Protect Implanted Cells

Discover methods to proactively supply oxygen to encapsulation devices and what membrane microstructures prevent sensitization and rejection with **Amir Lichter of Beta O₂ Technologies**



Discuss the Promise of Gene Editing for Cell Therapies in Diabetes to Overcome the Need for Immunosuppression

Examine the importance of speed, specificity and multiplexing efficiency of gene editing systems to maximize editing efficacy with **Tony Ho of CRISPR Therapeutics**



Addressing the Importance of Preclinical Models Moving Towards the Clinic

Explore predictive preclinical models and the difficulties the differences between murine and human immune systems pose with **Marine Kraus of Nestle Institute of Health Sciences**



Engineering Regulatory T Cells for Autoimmunity, Inflammation & Transplantation

Highlighting the potential of CAR-Tregs as a new modality to restore immune tolerance and as an approach to cure diabetes with **Jason Fontenot of Sangamo Therapeutics**



Optimize Procedures to Easily Generate Functioning Stem Cell-Derived Beta Cells

Discuss state-of-the-art automation methodologies and protocol standardization to precisely compare genetically modified pancreatic beta cells with **Jeffrey Millman, Bjarki Johannesson & Maïke Sander**



YOUR EXPERT SPEAKERS



Amir Lichter
CEO
Beta O₂ Technologies



Yanick Fanton
Lab Director
Beta-Cell NV



Tony Ho
Head of Research & Development
CRISPR Therapeutics



Marjana Marinac
Director, Regulatory Affairs for Drugs & Biologics
JDRF



Albert Hwa
Operations Director, CCTD
Joslin Research Center



Kfir Molakandov
Head of Diabetes Research
Kadimastem



Erwin Illegems
Senior Researcher
Karolinska Institutet



Marine Kraus
Team Leader, Stem Cells
Nestle Institute of Health Sciences



Mathias Svahn
CEO
Next Cell Pharma



Matthias von Herrath
Vice President & Senior Medical Officer, Type 1 Diabetes & Stem Cells
Novo Nordisk



Kenneth Waggoner
CEO, President & General Counsel
PharmaCyte Biotech



Jason Fontenot
Senior Vice President, Cell Therapy
Sangamo Therapeutics



Krister Bokvist
Head of Islet Biology
Sanofi



Bjarki Johannesson
Senior Investigator
The New York Stem Cell Foundation



Jan Jensen
CEO
Trailhead Biosystems Inc



Maike Sander
Director of the Pediatric Diabetes Research Center
UC San Diego



Per-Ola Carlsson
Professor of Medical Cell Biology
Uppsala University



Jay Skyler
Professor
University of Miami



Eugene Brandon
Senior Director of Strategic Relations
ViaCyte



Jeffrey Millman
Assistant Professor, Medicine & Biomedical Engineering
Washington University St Louis

Very well organized meeting with top researchers in this field: great overview of a dynamic subject area



FOCUS DAY TUESDAY 24TH SEPTEMBER

Workshop A

9:00am – 12:00pm

Examining the Oxygenation of Beta Cells

Pancreatic islets normally have a very high vascular density, where most beta cells are in direct contact with capillaries. Although heterogeneities exist, the mean blood perfusion is ten times higher than that in the exocrine parenchyma and provides an oxygen tension of approximately 40 mmHg in the highly metabolically active islet tissue fully dependent on oxidative metabolism. Cell therapy with pancreatic islets or pluripotent stem cell derived insulin producing cells means that the tissue has to be supplied with oxygen solely by diffusion for the surroundings prior to revascularization.

Attend this workshop to learn:

- The importance of oxygen for beta cell function
- The oxygen supply and capacity for revascularization of transplanted beta cells in different implantation sites
- Oxygenation for encapsulated beta cells
- Experimental techniques to measure islet vascularization, blood flow and oxygen tension

Workshop Leader



Per-Ola Carlsson
Professor of Medical
Cell Biology
Uppsala University

Per-Ola Carlsson is a professor of Medical Cell Biology at Uppsala University, Sweden. He also serves as a senior consultant in endocrinology and diabetology at Uppsala University Hospital. His research focus has during the years been on islet physiology, islet vascular biology and vascular engraftment of transplanted pancreatic islets. The work includes basic science work on the microcirculation and oxygenation of pancreatic islets in correlation to islet function and metabolism, as well as the paracrine role of islet endothelial cells for beta cell function

Workshop B

1:00pm – 4:00pm

Outlining the Promise of Stem Cell-Derived Insulin Producing Human Beta Cells

Stem cell-derived insulin-producing human beta cells are a promising cell source for diabetes cell replacement therapy. Rigorous functional and molecular characterization of stem cell-derived beta cells and their progenitor cells is critical for successful translation of this technology to the clinic.

Attend this workshop to:

- Learn about the underlying biology of differentiating and maturing stem cell-derived beta cells
- Functional assessment of stem cell-derived beta cells
- Identify current gaps in knowledge and technologies for manufacturing of stem cell-derived beta cells

Workshop Leaders



Jeffrey Millman
Assistant Professor,
Medicine & Biomedical
Engineering
**Washington
University St Louis**

Dr. Jeffrey Millman is currently an Assistant Professor of Medicine and Biomedical Engineering in the Division of Endocrinology, Metabolism, and Lipid Research at Washington University School of Medicine in St. Louis. He received his Ph.D. in Chemical Engineering from the Massachusetts Institute of Technology in 2011.



Maike Sander
Director of the
Pediatric Diabetes
Research Center
UC San Diego

Maike Sander is the Director of the Pediatric Diabetes Research Center and Co-Director of the Center on Diabetes in the Institute of Engineering in Medicine at UC San Diego. The major focus of her research is to understand the molecular mechanisms that control the formation and proper function of insulin-producing pancreatic beta cells.



CONFERENCE DAY ONE

WEDNESDAY 25TH SEPTEMBER 2019

	8.00 Registration & Coffee
Tony Ho Head of Research & Development CRISPR Therapeutics	9.00 Chair's Opening Remarks
Exploring Techniques to Protect Implanted Cells from a Patient's Alloimmunity & Autoimmunity	
Eugene Brandon Senior Director of Strategic Relations ViaCyte	9.15 Developing Islet Cell Replacement Therapies for Type 1 Diabetes • Manufacturing pluripotent stem cells and pancreatic progenitors • Delivery systems to address immunity • Preclinical and clinical progress
Amir Lichter CEO Beta O₂ Technologies	9.45 The Beta-Cells' Oxygenation Need: Moving from Theory to Practicality • Why do we desperately need proactive supply of oxygen? • What is the novelty/IP around it? • What have we proved so far? • What are the challenges and why do we believe we can overcome most of them? • What is the plan moving forward? • When do we expect to have the final verdict: Having the conclusions in our hands?
Yanick Fanton Lab Director Beta-Cell NV	10.15 Lessons Learned from Porcine Endocrine Xenotransplantation Studies in Immune Deficient and Immune Competent Recipients for the Treatment of Diabetes • Advantages and challenges of a fetal porcine endocrine cell product in relation to encapsulation and immune suppression • Functionality of porcine endocrine cells in immune deficient and immune competent recipients • Possible immune protective strategies for fetal porcine endocrine cells
	10.45 Morning Refreshments & Speed Networking
Kenneth Waggoner CEO, President & General Counsel PharmaCyte Biotech	11.45 Examining Microencapsulation Methods for Implantation • Introduction to microencapsulation technology and product pipeline • Manufacturing process of encapsulated cells • Unique attributes of encapsulation material • Placement of capsules and mechanism of action • Development of bio-artificial pancreas to treat Type 1 and insulin-dependent Type 2 diabetes by encapsulating genetically engineered liver cells, stem cells and beta islet cells
Matthias von Herrath Vice President & Senior Medical Officer, Type 1 Diabetes & Stem Cells Novonordisk	12.15 Defining New Combination Therapies to Intervene in Type 1 Diabetes • The issues of immunity and reoccurrence of autoimmunity and allorecognition • Strategies using stem cells to overcome allorecognition • Discussing capsules and implantation



Erwin Ilegems
Senior Researcher
**Karolinska
Institutet**

12.45 Translational Assessment of a Beta Cell Specific Expression Methodology to Improve Islet Function Prior to Transplantation

- Endocrine cells dissociated from native islets can be reaggregated into functional pseudoislets of controllable size
- Pseudoislets transplanted into the anterior chamber of the mouse eye are properly vascularized and contribute to blood glucose homeostasis
- Transduction during reaggregation of cells into pseudoislets improves adenovirus-mediated gene transfer efficiency
- Synthetic overexpression of specific GPCRs in beta cells as a strategy to regulate insulin release
- In vivo functional imaging of beta cells within engrafted pseudoislets allows to evaluate the potential of this engineering approach in providing high-quality islets for clinical transplantation

1.15 Lunch & Networking

2.15 Panel Discussion: Exploring Gene Editing as a Means to Protect Transplanted Cells from a Patients' Immune System

- Learning how the advent of novel gene editing tools provides unique opportunities to disassemble MHC components in stem cell lines used to produce pancreatic-lineage cells to prevent presentation of alloantigens and autoantigens by the stem cell-derived beta cells and recognition by memory autoimmune cells in T1D patients
- To what extent can eliminating MHC class I and class II expression reduce alloimmune and autoimmune-mediated rejection of beta cells?
- Discussing the importance of speed, specificity, and multiplexing efficiency of gene editing systems to maximize editing efficacy



Tony Ho
Head of Research & Development
**CRISPR
Therapeutics**



Bjarki Johannesson
Senior Investigator
**The New York Stem
Cell Foundation**



Yanick Fanton
Lab Director
Beta-Cell NV



Marjana Marinac
Director, Regulatory
Affairs for Drugs &
Biologics
JDRF

3.15 Afternoon Refreshments & Poster Session

4.15 Round Table Discussion

1. Improving Scalability to Take Cell Replacement Therapies to a Commercial Scale

- Highlighting the benefits of using suspension culture and 3D aggregates in bioreactors to produce more cells per facility space
- Outlining a need to vision your full-scale process: Introducing good practice from the start to avoid bridging structures and ease path to commercialization
- Hybrid differentiation systems: Moving from 2D to 3D mid differentiation, is this feasible on a large scale?

2. Addressing the Need for Effective Cryopreservation to Maintain the Function of Transported and Stored Cells

- Developing robust cryopreservation protocols for the supply and transport of cell therapies
- Is standardization of the optimal cold supply chain design possible?
- Addressing the value of automation in cryopreservation
- Formulating cells for infusion after thawing, what is the best protocol?

3. Measuring Efficacy of Cell Replacement Therapies Against Current Treatments

- Highlighting the need for an extremely high standard of care for the target product profile to become the preferential treatment
- Is a therapy viable if it doesn't achieve absolute insulin independence?
- Discussing the potential these therapies hold as a curative rather than palliative treatment

Tony Ho
Head of Research & Development
**CRISPR
Therapeutics**

5.15 Chair's Closing Remarks

5.30 End of Day 1



CONFERENCE DAY TWO

THURSDAY 26TH SEPTEMBER 2019

	7.30 Registration & Coffee
Jay Skyler Professor University of Miami	8.30 Chair's Opening Remarks
Optimization of the Stem Cell Procedure to Generate Islet-like Structures	
Jeffrey Millman Assistant Professor, Medicine & Biomedical Engineering Washington University St Louis	8.45 Approaches to Functionally Mature Stem Cell-Derived Beta Cells For Therapy - State-of-the-art methodologies for generating stem cell-derived beta cells will be discussed - Stem cell-derived beta cells are glucose-responsive and capable of reversing diabetes in mice - Suspension culture for scalable cell production possible - Functional parity with cadaveric human islets has been difficult to achieve
Bjarki Johannesson Senior Investigator The New York Stem Cell Foundation	9.15 High-Throughput Generation of Standardized Human iPSC Derived Pancreatic Beta Cell Islets - We have established an automated pipeline for the optimization of iPSC-based differentiation protocols - This pipeline is currently being applied to the differentiation of pancreatic beta cell islets from human iPSC - Automation of beta islet differentiation allows parallel differentiation of multiple patient derived cells for population-based disease modeling and drug screening - Protocol and process standardization also allows precise comparison of genetically modified pancreatic beta cells
Jan Jensen CEO Trailhead Biosystems Inc	9.45 Towards Manufacturing of Cells for Organ Engineering and Transplantation, Diabetes and Beyond - Cell culture manufacturing demands process understanding to attain product consistency, purity and function - Quality-by-Design principles are not commonly applied in living cell manufacture due to complexity of the products - High-Dimensional Design of Experiments (HD-DoE) is able to extract critical process parameters and offers as systems biology understanding of differentiation spaces, highly applicable to manufacturing of cells - Trailhead Biosystems is pioneering the application of HD-DoE for the generation of multiple specialized human cells - An HD-DoE based Development of a rapid, small molecule-only, method for the generation of dorsal pancreas and insulin producing cells will be shown
Mathias Svahn CEO Next Cell Pharma	10.15 The Development of Allogeneic Mesenchymal Stem Cell Therapies for Type 1 Diabetes Talk details to be confirmed
	10.45 Morning Refreshments & Networking
Kfir Molakandov Head of Diabetes Research Kadimastem	11.15 Functional Enrichment for Insulin Producing Cells from hPSC Large Scale Culture using Novel Cell Surface Marker Combinations - Large scale production of hPSC-derived islets are composed from heterogeneous populations that include targeted therapeutic population (~40%) along with functionally irrelevant populations that include pancreatic progenitors and poly-hormonal cells (~50%) - Using cell-capture antibody array, novel antibodies to distinguish these populations were identified - Utilizing MACS technology, large scale cultures were enriched using a novel antibody combination and re-aggregated <i>In vitro</i> and <i>in vivo</i> function is beneficial and superior to non-sorted cells - Strategy to reduce the required cell mass loaded into an encapsulation device and potentially to decrease the device's physical dimensions



Marine Kraus Team Leader, Stem Cells Nestle Institute of Health Sciences	11.45 Preclinical Predictive Models: <i>In Vitro</i> Generation of Functionally Mature Beta-Cells from hiPSCs • hiPSCs can mature towards insulin producing cells <i>in vivo</i> • hiPSCs can differentiate <i>in vitro</i> towards insulin secreting cells • beta-like cells exhibit glucose regulated insulin secretion, displaying the first and second insulin release phases, characteristic of human islets
Jay Skyler Professor University of Miami	12.15 Immunotherapy for Type 1 Diabetes • Type 1 diabetes is an immune mediated disease. Over the past three decades there have been a number of clinical trials with immune interventions • Trials have been directed at interdicting the type 1 diabetes disease process in an attempt to prevent the development or progression of the disease. Trials have also attempted to stabilize (and potentially even reverse) the disease. Most trials have either failed to have an effect or have had only a transient beneficial effect • Newer trials are being designed in an attempt to better succeed at maintaining protracted beta cell function. Some trials use multiple agents directed at different components of the immune system • Ideally, intervention would induce tolerance or permanently arrest the immune process. Recurrence of autoimmunity has been reported with beta cell replacement therapy in the absence of graft rejection. Thus, beta cell replacement therapies also will require control of the immune response directed against beta cells, and prevention of rejection
	12.45 Lunch & Networking
1.45 Panel Discussion: Moving Towards Commercialization - Forward Thinking • Determining suitable risk analyses for supply chain, logistics and durability of suppliers • Debating diversifying source providers to avoid supply deficits • How do you ensure providers can meet the scale you need?  Krister Bokvist Head of Islet Biology Sanofi  Albert Hwa Operations Director, CCTD Joslin Research  Jay Skyler Professor University of Miami  Kfir Molakandov Head of Diabetes Research Kadimastem	
	2.45 Afternoon Refreshments
Jason Fontenot Senior Vice President, Cell Therapy Sangamo Therapeutics	3.15 Engineering Regulatory T Cells for Autoimmunity, Inflammation & Transplantation • Engineering regulatory T cells with a Chimeric Antigen Receptor (CAR) to generate antigen specific Tregs • CAR-Tregs as a new modality to restore immune tolerance • Engineering regulatory T cells beyond antigen recognition
Marjana Marinac Director, Regulatory Affairs for Drugs & Biologics JDRF	3.45 Focusing on the Regulatory Considerations of Cell Therapies for Diabetes • Talk details to be confirmed
Jay Skyler Professor University of Miami	4.15 Chair's Closing Remarks
	4.30 Close of Summit



WHY PARTNER

Are you looking to work with pharma, biotech and academic institutes that are developing Cell Therapies for Diabetes?

A curative therapy for diabetes would improve the lives of millions of people worldwide and numerous companies and institutions have been researching techniques to find a cure for decades.

Many challenges still exist and **companies in the space are actively seeking partners** to assist them in overcoming these challenges.

Tailored Opportunities include:



Speaking Opportunities

Position yourself as the thought leader in your space and educate the market



Panel Moderator

Curate and drive the conversation alongside leaders of the field



Roundtable Leader

Interact intimately with your market audience to understand their needs



Workshop Leader

Lead a focused and in-depth discussion with a targeted audience



Exclusive VIP Hosting

Build or cement relationships through informal channels



Exhibition Stand

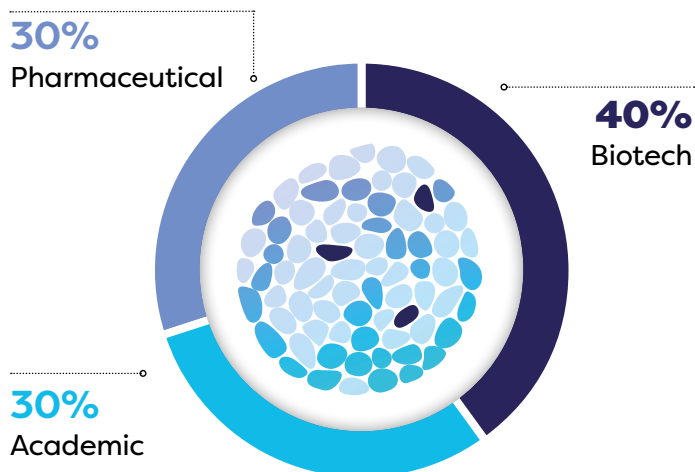
Have your flag in the ground and showcase your technology to the onsite community of senior decision makers

Don't miss out on the opportunity to showcase your expertise at the **only industry-focused meeting** dedicated to cell therapies and diabetes.

Whether you need to **communicate exciting progress** to the decision makers in the field, are looking to **enhance or generate leads** or would just like to get a grasp of what next generation investments this market wants, then you can rely on our ability to advise on, and **deliver the right solution** for you.

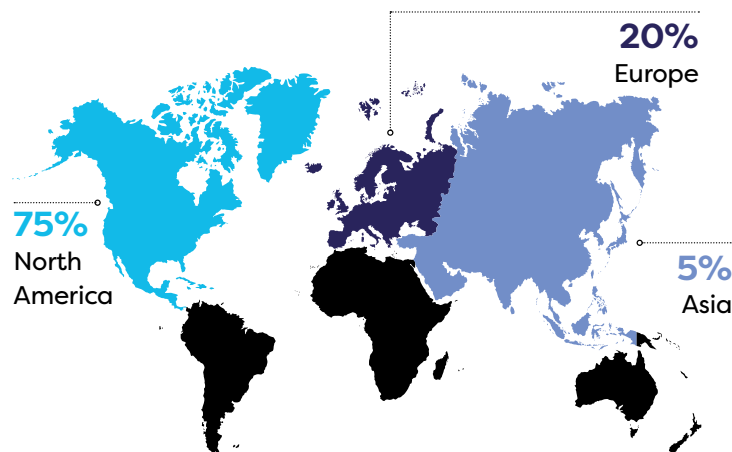
This is the perfect opportunity to demonstrate your technology, expertise and capacity to meet the increasing demands of this field.

Attendance by Company Type*



*Expected Attendance

Attendance by Geo*



PARTNER WITH US



Andreea Dogaru

Partnerships Director

Tel: +44 203 854 2902

Email: sponsor@hansonwade.com



READY TO REGISTER?

3 EASY WAYS TO BOOK



www.cell-therapies-diabetes.com



Tel: +1 415 735 3289



Email: register@hansonwade.com



Network with the experts and leaders of the Cell Therapies for Diabetes Community and take this opportunity to make collaborative partnerships for future clinical prospects.



Hear the novel clinical data from trials and apply the lessons learnt to future pipelines to ensure future efficacy.



Learn from the leaders in the space and join the communal discussion finding solutions to limiting manufacture and regulatory issues.

Team Discounts*

- 10% discount – 3 delegates
- 15% discount – 4 delegates
- 20% discount – 5 or more delegates

Please note that discounts are only valid when three or more delegates from one company book and pay at the same time.

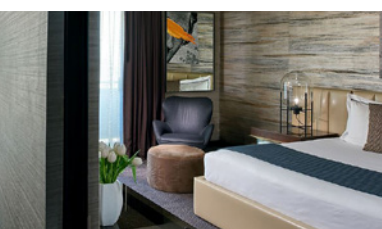
Discounts cannot be used in conjunction with any other offer or discount. Only one discount offer may be applied to the current pricing rate.

Contact: register@hansonwade.com

SECURE YOUR PLACE

Industry Pricing	Register & Pay before Friday, July 19 (Save \$400)	Standard Price
GOLD Conference + 2 Workshops	\$3,199	\$3,599
SILVER Conference + 1 Workshop	\$2,699	\$3,099
BRONZE Conference Only	\$2,199	\$2,599
Workshop Only	\$599	

Academic Pricing	Register & Pay before Friday, July 19 (Save \$400)	Standard Price
GOLD Conference + 2 Workshops	\$2,399	\$2,799
SILVER Conference + 1 Workshop	\$1,899	\$2,299
BRONZE Conference Only	\$1,399	\$1,799
Workshop Only	\$599	



VENUE

Revere Hotel Boston Common

200 Stuart Street, Boston

Massachusetts, 02116

For further information or assistance, please visit
www.reverehotel.com

TERMS & CONDITIONS

Full payment is due on registration. Cancellation and Substitution Policy: Cancellations must be received in writing. If the cancellation is received more than 14 days before the conference attendees will receive a full credit to a future conference. Cancellations received 14 days or less (including the fourteenth day) prior to the conference will be liable for the full fee. A substitution from the same organization can be made at any time.

Changes to Conference & Agenda: Hanson Wade reserves the right to postpone or cancel an event, to change the location or alter the advertised speakers. Hanson Wade is not responsible for any loss or damage or costs incurred as a result of substitution, alteration, postponement or cancellation of an event for any reason and including causes beyond its control including without limitation, acts of God, natural disasters, sabotage, accident, trade or industrial disputes, terrorism or hostilities.

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