

**BOOK NOW AND SAVE
UP TO \$700**

September 27-28, 2018 | Boston, USA

www.non-opioiddrugdevelopment.com



NON-OPIOID

PAIN DRUG DEVELOPMENT SUMMIT

DISCOVERING NEXT GENERATION ALTERNATIVES TO TREAT PAIN

Optimize the Translation of Novel Non-Opioid Pain Drug Discoveries into Clinically Validated Therapies

Expert Speakers Include:



Mary Ann Pellymounter
Program Director
**NIH/NINDS/
Division of
Translational
Research**



Daniel Klammer
VP, Business
Development
& Scientific
Strategy
**Anavex Life
Sciences Corp.**



Kerrie Brady
CBO & Exec VP
Strategy
Centrexion Corp



Crist Frangaki
President & CEO
**Achelios
Therapeutics**



Lucio Rovati
CEO & CSO
**Rottapharm
Biotech**



Silviu Itescu
CEO
Mesoblast Ltd.

Non-Opioid Pain Drug Development Summit 2018

Optimize the Validation of Novel Analgesic Targets & Accelerate the Translation & Clinical Development of Safer, More Effective & Non-Opioid Pain Therapies to Patients

With the US in the midst of an opioid crisis, it has never been more critical for the pharmaceutical, biotechnology and academic fields to unite in a common goal to innovate and accelerate the discovery and development of novel non-opioid therapies to treat pain.

This summit and its expert speaker faculty will update you on the latest and most novel R&D efforts currently ongoing in discovery and optimization of non-opioid analgesic targets and their mechanism of action. In addition, the inaugural Non-Opioid Pain Drug Development Summit will be your dedicated platform to overcome translational challenges, such as animal model predictive value, biomarker identification, and proving clinical trial efficacy against placebo effect.

What experts are looking forward to at this summit:

■ ■ Finding ways to bring to patients more alternatives to opioid drugs for pain requires that all of us, industry, academia and government, bring our best thinking and resources to the table. This meeting provides an important and valuable venue to facilitate that. ■ ■

Kerrie Brady, CBO, Centrexion Corp.

■ ■ I would like to promote the NINDS Biomarker Program and our other translational drug discovery and development programs at this conference. Networking with Biopharma is another value in attending this meeting ■ ■

Mary Ann Pellymouter- Program Directorm NIH/NINDS/ Division of Translational Research



Why Attend Non-Opioid Pain Drug Development Summit 2018?

1.

Explore & understand different types of pain and mechanism of actions to advance novel & patient-centric approaches to pain drug development



2.

Assess non-addictive opioid based therapeutics as a catalyst for better pain R&D with case studies from **Cavature Drug Discovery, Inc., Rottapharm Biotech & University of Michigan**



3.

Discover novel analgesic targets from latest pre-clinical approaches to non-opioid pain drugs development with solution led talks delivered by leading biotech and academics such as **Carica Health, Anavex Life Sciences & Saint Louis University**



4.

Through case studies and deep discussions with key experts from **NIH, McGill University & Northeastern University** benchmark and overcome key translational challenges such as lack of predictability of models, biomarker identification and clinical design of novel pain drug development



5.

Find out about the most innovative approaches of non-opioid pain drugs currently in clinical development from leaders such as **Mesoblast, Chromocell, Achelios Therapeutics & Indiana University**



Your Expert Speakers



Mary Ann Pellymounter
Program Director
**NIH/NINDS/
Division of
Translational
Research**



Kerrie Brady
CBO & Exec VP
Strategy
Centrexion Corp.



James Ellis
CSO
Carica Health



Lucio Rovati
CEO & CSO
**Rottapharm
Biotech**



Alexandros Makriyannis
Chemistry &
Chemical Biology
Director, The Center
for Drug Discovery
**Northeastern
University**



Craig Hartrick
President of World
Institute of Pain;
President & CSO
**Caventure Drug
Discovery, Inc.**



Andrew Alt
Director, Center
for Chemical
Genomics
**University of
Michigan**



Daniel Klamer
VP, Business
Development &
Scientific Strategy
**Anavex Life
Sciences Corp.**



Silviu Itescu
CEO
Mesoblast Ltd.



Daniela Salvemini
Professor of
Pharmacological
and Physiological
Science
**Saint Louis
University**



Jeffrey Mogil
E.P. Taylor Professor
of Pain Studies
McGill University



Crist Frangaki
President & CEO
**Achelios
Therapeutics**



Jianguo Cheng
Professor & Director
Cleveland Clinic



Tina Garyantes
VP, Therapeutic
Chromocell



Wolfgang Liedtke
Professor of Neurology,
Anesthesiology and
Neurobiology at Duke
University; Scientific &
Clinical Advisory Board
Member
**Achelios
Therapeutics**



Andrea Hohmann
Linda and Jack
Gill Chair of
Neuroscience
and Professor of
Psychological and
Brain Sciences
Indiana University

WHY ARE OUR EXPERT SPEAKERS LOOKING FORWARD TO THE SUMMIT?

■ ■ This meeting which is highly timely, will bring together several experts across many disciplines to discuss opportunities and challenges. I am excited to be able to contribute to this endeavour ■ ■

Daniela Salvemini- Professor of Pharmacological and Physiological Science- Saint Louis University

■ ■ Facilitating contacts between industry and academia, including collaborations and contracts, to accelerate solutions to the current opioid epidemic ■ ■

Andrea G. Hohmann- Linda and Jack Gill Chair of Neuroscience and Professor of Psychological and Brain Sciences- Indiana University

■ ■ I look forward to networking with peers to better understand the potential and challenges in developing novel non-opioid analgesics ■ ■

James Ellis- CSO- Carica Health



■ ■ This meeting provides a networking opportunity for scientists to meet potential partners in turning novel ideas into patient-centered solutions to the opioid crisis ■ ■

Craig Hartrick- President of World Institute of Pain; President & CSO- Caventure Drug Discovery, Inc.



■ ■ Opportunity to discuss new approaches to opioid and non-opioid analgesia with a panel and audience of scientists skilled in the field ■ ■

Lucio Rovati- CEO & CSO- Rottapharm Biotech



Conference Day One | Thursday, 27 September, 2018

8.00 Registration & Breakfast

8.50 Chair's Opening Remarks

Non-Addictive Opioid Based Therapeutics as a Catalyst for Better Pain R&D

Craig Hartrick
 President of World
 Institute of Pain;
 President & CSO
**Caventure Drug
 Discovery, Inc.**

9.00 Case Study: Opioid Crisis at a Glance from the R&D Perspective

- The opioid crisis in the US and the global response
- Pathophysiologic underpinnings contributing to the opioid crisis and chronic pain
- Exploiting chronic pain pathophysiology in the development of non-addictive opioids

Andrew Alt
 Director, Center for
 Chemical Genomics
**University of
 Michigan**

9.30 Case Study: Allosteric Modulators of Opioid Receptors: A Novel Approach to Safer Pain Therapeutics

- Positive Allosteric Modulators (PAMs) of opioid receptors block pain by amplifying the activity of endogenous opioid agonists which are naturally released in pain states
- Opioid PAMs do not directly activate opioid receptors, and have no effect in tissues where agonists are not present
- Therefore, opioid PAMs may exhibit significantly improved side effect and abuse liability profiles compared to current opioid medications
- The current preclinical data supporting a rationale for developing opioid receptor PAMs as novel pain medications will be presented

Lucio Rovati
 CEO & CSO
Rottapharm Biotech

10.00 Case Study: Targeting Imidazoline-2 Receptors In the Development of New Non-Opioid Analgesics and as a Safe, Non-Addictive Combination with Low-Dose Opioids

- Case study of Imidazoline-2 receptor (I2R) ligands as potent, non-opioid analgesics
- CR4056 is a first-in-class I2R ligand endowed with strong analgesic activity in animal models of inflammatory, neurogenic, neuropathic, post-surgical, fibromyalgia-like and osteoarthritis pain
- A first proof-of-concept was obtained in human knee osteoarthritis pain and CR4056 is currently in phase II clinical trials in different other pain indications
- A strong non-clinical package shows that low-dose CR4056 combined with low-dose opioids provide full analgesia, with no opioid-addictive properties, absence of tolerance and without relevant side effects

Craig Hartrick
 President of World
 Institute of Pain;
 President & CSO
**Caventure Drug
 Discovery, Inc.**

10.30 Case Study: Beyond Mu: Novel Opioid Development

- Opioid receptors in analgesia and addiction
- Alternatives to mu-opioid agonists
- Novel molecular entities designed to address alterations in pain pathways associated with chronic pain states

11.00 Speed Networking & Morning Refreshments

Highlighting Novel Pre-Clinical Approaches to Non-Opioid Pain Drug Development

Wolfgang Liedtke
 Professor of
 Neurology,
 Anesthesiology and
 Neurobiology at Duke
 University; Scientific
 & Clinical Advisory
 Board Member
**Achelios
 Therapeutics**

11.30 Case Study: Analgesic Modulation of Pain-Relevant Neural Circuits via Topical Treatments

- Neural circuits that affect pain signalling can be modulated via the peripheral afferent neuron
- Potent barrier penetration as an entry level requirement
- Highlighting of mechanistically-elucidated exemplary investigations and elaborating on the relevance of these concepts and advances for non-opioid pain treatments

 Alexandros Makriyannis Chemistry & Chemical Biology Director, The Center for Drug Discovery Northeastern University	12.00 Case Study: The Cannabinoid System as a Therapeutic Target for Pain • Analgesic effects by CB1 activation • Neuropathic pain through CB2 activation • Analgesia by indirectly engaging the cannabinoid system
 Daniela Salvemini Professor of Pharmacological and Physiological Science Saint Louis University	12.30 Case Study: Highly Selective A3AR Agonists as Novel Non-Narcotic Analgesics • A3 adenosine receptor (A3AR) agonists as potent non-narcotic analgesics • A3AR agonists as adjunct to opioids to mitigate opioid-induced adverse effects • Mechanistic insights from the above
	13.00 Networking Lunch
 Jianguo Cheng Professor & Director Cleveland Clinic	14.00 Case Study: An Emerging Cell-Based Therapy for Neuropathic Pain • Stem cell transplantation reversed neuropathic pain in animal models and in preliminary clinical studies • Opioid tolerance and opioid induced hyperalgesia were substantially reversed after mesenchymal stem cell transplantation in animals • Opioid tolerance and opioid-induced hyperalgesia were prevented when stem cells were transplanted before initiation of chronic daily morphine injections in animals • Preclinical investigations support the emergence of cell-based therapy to treat neuropathic pain and to prevent and treat opioid tolerance, which is the main reason for opioid dose escalation and overdose
 Daniel Klammer VP, Business Development & Scientific Strategy Anavex Life Sciences Corp.	14.30 Case Study: ANAVEX®1066, a Sigma-1 Receptor Antagonist, as a Therapeutic Candidate for Pain • Strong scientific rationale for the use of Sigma-1 Receptor antagonists in pain • ANAVEX®1066 have demonstrated efficacy in several different pain models • ANAVEX®1066 is safe in doses exceeding the observed efficacious ranges
 James Ellis CSO Carica Health	15.00 Case Study: Selective Targeting of Sodium Channel Blockers into Nociceptors to Produce Analgesia • Broad spectrum Na channel blockers are effective analgesic agents but produce nonselective sensory, motor and autonomic block • Broad spectrum Na channel blockers also have limited duration of action limiting their use • Selective targeting of Na Channel blockers into specific sets of axons via activation of differentially expressed large-pore channels provides an opportunity to produce prolonged local analgesia
	15.30 Afternoon Refreshments & Networking

Highlighting & Discussing Key Areas to Drive Successful Non-Opioid Pain Drug R&D



Silviu Itescu
 CEO & Executive
 Director
Mesoblast Ltd.



Craig Hartrick
 President of World
 Institute of Pain;
 President & CSO
**Caventure Drug
 Discovery, Inc.**



Wolfgang Liedtke
 Professor of
 Neurology,
 Anesthesiology and
 Neurobiology at Duke
 University; Scientific
 & Clinical Advisory
 Board Member
**Achelios
 Therapeutics**

16.00 **Panel Discussion: Challenges in Design and Interpretation of Pain Clinical Trials and How to Overcome Them?**

- How to overcome failure to demonstrate efficacy in early clinical development phases?
- With no objective end points and pain to be a matter of personal opinion and patient reported, how to overcome current challenges associated with pain clinical trial designs?
- How to effectively blind the studies when study drug has particular adverse events?

16.30 **Roundtable Discussion**

Our breakout roundtables will allow you to have more intimate discussions with AI and pharma leaders around some of the hottest topics in the field. Discover multiple perspectives on these key issues, so that you can learn from your fellow experts in the audience. Drive your own learning, crowd-source ideas and get inspired. Immerse yourself in the following discussions:

1. What are the most novel and exciting approaches to non-opioid pain drug development?



James Ellis
 CSO
Carica Health

2. Public-Private Partnership: How to advance non-opioid & non-addictive pain drug development?



Kerrie Brady
 CBO & Exec VP Strategy
Centrexion Corp.

3. How to successfully translate non-opioid pain drug research from bench-to-bedside?

TBC

17.00 **Chair's Closing Remarks & End of Day One**

At this summit, I am looking forward to seeing the most current science around development of safer pain therapeutics, as well as present my own research in this area.

Andrew Alt- Director, Center for Chemical Genomics- University of Michigan



Conference Day Two | Friday, 28 September, 2018

8.30 Breakfast & Networking

8.50 Chair's Opening Remarks

Overcoming Key Translational Challenges of Novel Pain Drug Development



Jeffrey Mogil
 E.P. Taylor Professor of
 Pain Studies
McGill University

9.00 Case Study: Pain in Mice and Man: Ironic Adventures in Translation

- Translation of pain biology from preclinical to clinical has been challenging
- Contributing reasons include issues surrounding genotype, sex, pain measurement, and clinical trials
- Ironically, translation of social modulation of pain appears to be highly successful



Mary Ann Pellymouter
 Program Director
NIH/NINDS/ Division of Translational Research

9.30 Case Study: Promotion of Best Practices in Biomarker Discovery and Validation: A New Program at NINDS with an Emphasis on Pain Biomarkers

- Why are biomarkers needed for the discovery of non-opioid pain therapeutics?
- The process of biomarker discovery and validation
- The new biomarker program at NINDS and its emphasis on non-opioid pain therapeutics

Moderator: TBC

10.00 Roundtable Discussion

Our breakout roundtables will allow you to have more intimate discussions with AI and pharma leaders around some of the hottest topics in the field. Discover multiple perspectives on these key issues, so that you can learn from your fellow experts in the audience. Drive your own learning, crowd-source ideas and get inspired. Immerse yourself in the following discussions:

The Effectiveness of Patient Selection and Patient-Reported Outcomes on the Success of Pain Clinical Trials

- How to identify the right patient population for the right pain trial? What are the challenges and opportunities?
- What are the considerations and challenges in selecting patient-reported outcome measures for pain clinical trials?

10.30 Networking & Morning Refreshments

Benchmarking Non-Opioid Pain Drugs in Clinical Development



Silviu Itescu
 CEO
Mesoblast Ltd.

11.00 Case Study: Mesenchymal Precursor Cells as a Non-Opioid Treatment for Low Back Pain

- Single intra-discal injection
- Durable pain reduction (up to 2 years)
- Immunomodulation



Tina Garyantes
 VP, Therapeutic
Chromocell

11.30 Case Study: CC8464, Novel, Peripherally Restricted Pain Inhibitor Targeting Nav1.7

- Strong evidence supporting the development of CC8464 for the treatment of neuropathic pain
- Insights into potential efficacy beyond neuropathic pain
- Update on clinical program



Crist Frangaki
President & CEO
Achelios
Therapeutics

12.00 Case Study: Novel Topical Treatments for Painful Temporo-Mandibular Joint Pain Disorder and Migraine

- Topical NSAID ketoprofen, formulated to penetrate the epidermal barrier with high potency, relieves pain equivalents in a pre-clinical model of temporo-mandibular joint injury
- Also apparently effective in TMJD patients, with evidence of individual responsiveness
- Also effective in adult and juvenile migraines



Andrea Hohmann
Linda and Jack Gill
Chair of Neuroscience
and Professor of
Psychological and
Brain Sciences
Indiana University

12.30 Case Study: Targeting Cannabinoid CB2 Receptors to Suppress Opioid Tolerance and Physical Dependence

- Targeting the endocannabinoid signalling system, including CB2 receptors, suppresses neuropathic pain without producing unwanted central nervous system side effects of direct acting CB1 agonists
- Activation of cannabinoid CB2 receptors suppresses neuropathic pain without producing tolerance or withdrawal
- A “failed” drug development clinical candidate, a G protein biased cannabinoid CB2 agonist, previously evaluated in a Phase 2 clinical trial for a different indication, suppresses chemotherapy-induced neuropathic pain, blocks development of opioid tolerance and attenuates signs of opioid withdrawal in rodents

13.00 Networking Lunch Followed by Chair’s Closing Remarks & Close of Inaugural Non-Opioid Pain Drug Development Summit 2018

**Don’t miss out on
the translational
workshop session
on next page!**

Post-Conference Workshop | Friday, 28 September, 2018

Workshop A

Translation from Animal to Human: A Workshop on Strategies & Applications

15.00 - 17.00pm

This interactive workshop session will delve deep into the challenges associated with the lack of predictability and robustness of pre-clinical models. Join this session to increase your rate of success in clinical development by understanding, discussing and overcoming the translational hurdles to safely and effectively take first in class non-opioid pain therapies from bench to bedside.

- There are different types of pain: Delving into the different types of pain and pain pathways
- There are different types of pain models; Discussing advances and challenges for clinical translation

- How to optimize translation into clinic by exploring the “low hanging fruit” of past and current pain research
- Endocannabinoid system modulation provides successful approaches for addressing pain issues: Case study explored
- Review and discuss the case study by reflecting on the initial efforts through direct activation of both CB1 and CB2 receptors and why the current approaches involve indirect activation of both receptors



Workshop Leader

Alexandros Makriyannis, George George D. Behrakis Professor Of Pharmaceutical Biotechnology, Chemistry & Chemical Biology Director, The Center for Drug Discovery, **Northeastern University**

Alex Makriyannis is the George Behrakis Chair of Pharmaceutical Biotechnology at Northeastern University, Boston, MA, and is the Founder and Director of the Center for Drug Discovery. He is a highly successful medicinal chemist and is well recognized nationally and internationally for his important contributions in endocannabinoid research. This relatively newly characterized biochemical system, where he played an important role in its discovery, regulates many physiological functions including pain, neuroprotection, addiction, immunomodulation and cognition. Over the past four decades, his laboratory has designed and synthesized some of

the key pharmacological endocannabinoid probes that are widely used and serve as leads for the development of new medications. He has also made important contributions aimed at understanding the molecular basis of cannabinoid activity. He has been a creative pioneer in the field of chemical biology where he combined the use of medicinal chemistry, biochemistry, molecular biology and biophysics, his work is recognized for its high level of originality. Some of his compounds are in advanced preclinical trials for the treatment of metabolic disorders and liver function, neuropathic pain, addiction and neurodegenerative diseases.

BECOME A COMMERCIAL PARTNER



60+
ATTENDEES



5+
HOURS OF DEDICATED
NETWORKING



1
INTERACTIVE
WORKSHOPS



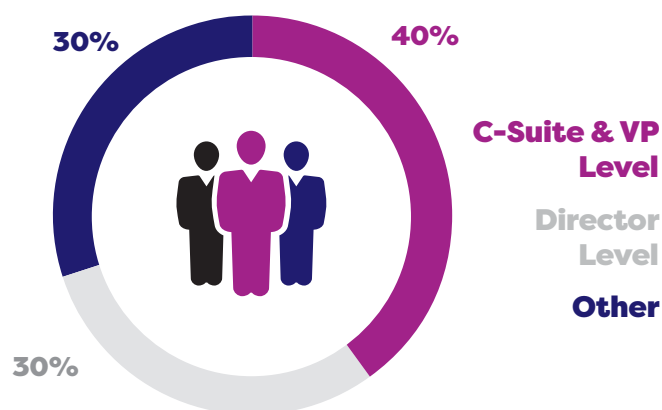
16+
REAL WORLD
CASE STUDIES

WHY ATTEND NON-OPIOID PAIN DRUG DEVELOPMENT SUMMIT 2018?

This summit and its expert speaker faculty will update you on the latest and most novel R&D efforts currently ongoing in discovery and optimization of non-opioid analgesic targets and their mechanism of action. In addition, the inaugural Non-Opioid Pain Drug Development Summit will be your dedicated and one of a kind platform to overcome translational challenges such as animal model predictively value, biomarkers identification, and proving efficacy against placebo effect. So join our platform to understand the science and also critical decision making processes that are crucial to setting up a successful non-opioid pain drug development pipeline.

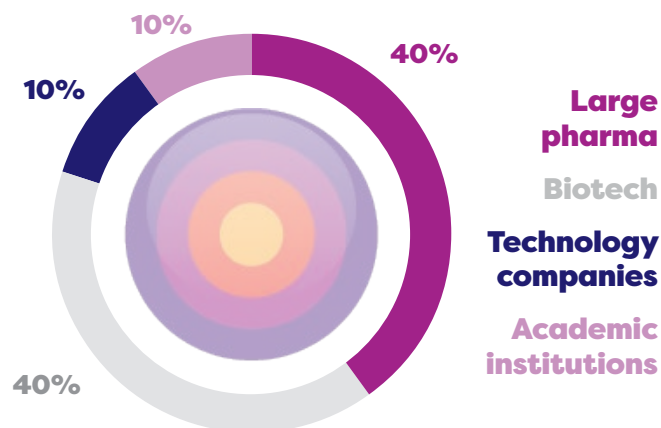
Identify, interact and forge meaningful relationships with contacts who are bought in and will champion R&D of next generation alternatives to treat pain.

SENIORITY



*Based on market research and previous events' statistics

COMPANY BY TYPE



*Based on market research and previous events' statistics

WHY SPONSOR

Benefit from Market Intelligence

Hear how and where drug developers are looking for external expertise to robustly translate their pre-clinical research into clinical development with success

Position Yourself as an Industry Thought Leader

With the US in the midst of an opioid crisis, it has never been more critical to innovate and accelerate the discovery and development of novel non-opioid therapeutics to treat pain. Demonstrate your expertise through podium presentations, moderating panel discussions or interactive roundtables

Raise Brand Awareness

Benefit from pre and post conference exposure to our key decision maker community and increase market share through unique branding formats

Meet and Network with Industry Pioneers

With a room full of drug developers looking to see how they can effectively optimize discovery of novel analgesic targets and successfully translate them into clinic meet prospective clients during speed networking breaks, 1-2-1 meetings and more informal networking receptions

Generate Commercial Collaborations

Make sure your hottest prospects are in the room and part of the discussion, by having a wish-list of your choice contacted in advance of the event

GET INVOLVED



Rob Keast

Senior Partnership Manager

Tel: +44 (0)20 3141 8700

Email: rob.keast@hansonwade.com

READY TO REGISTER?

3 EASY WAYS TO BOOK



www.non-opioiddrugdevelopment.com/register



Tel: +1 617 455 4188



Email: register@hansonwade.com

- 1 Learn about different types of pain and novel non-opioid therapeutic classes/modalities to address them
- 2 Benchmark hurdles associated with robust translation & clinical development of safer, more effective & non-opioid pain therapies for patients
- 3 Find out about the most innovative approaches of non-opioid pain drugs currently in clinical development and their future landscapes

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.
 Contact: register@hansonwade.com

SECURE YOUR PLACE

Industry Pricing	Register & Pay before 15 June 2018 (Save \$700!)	Standard Prices
Conference + 1 Workshop	\$1,798	\$2,498
Conference Only	\$1,299	\$1,999
Workshops Only	\$499	

Academic Pricing	Register & Pay before 15 June 2018 (Save \$500!)	Standard Prices
Conference + 1 Workshop	\$1,398	\$1,898
Conference Only	\$999	\$1,499
Workshops Only	\$399	

VENUE

Wyndham Boston Beacon Hill
 5 Blossom Street, Boston
 MA 02114

For further information or assistance, please visit
www.wyndhambeaconhill.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.

Data Protection: The personal information shown and/or provided by you will be held in a database. It may be used to keep you up to date with developments in your industry. Sometimes your details may be obtained or made available to third parties for marketing purposes. If you do not wish your details to be used for this purpose, please write to: Database Manager, Hanson Wade, Suite A, 6 Honduras Street, London EC1Y 0TH

Code: 8149