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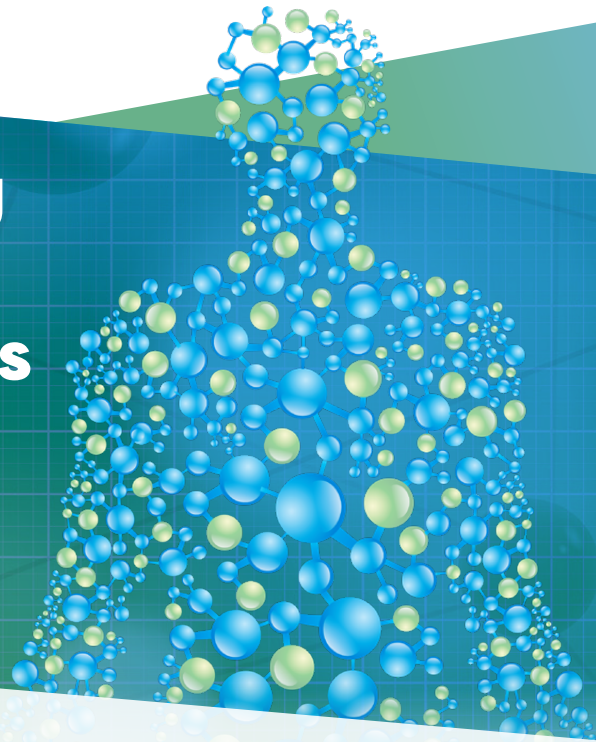
January 29-31, 2019 | San Francisco, CA
www.longevity-therapeutics.com



LONGEVITY

therapeutics

Enhancing & Accelerating Aging Research & The Development of Therapies Targeting Age-Related Diseases



20+ Expert Speakers Including:



John Lewis
CSO
Oisin
Biotechnologies



Nathaniel David
CEO
Unity
Biotechnology



Judith Campisi
Professor
Buck Institute
for Research on
Aging



Nir Barzilai
Professor & Director,
Institute for Aging
Research
Albert Einstein College
of Medicine



Ronald Kohanski
Deputy Director,
Division of Aging
Biology
National
Institute on Aging, NIH

■■ A huge success for everyone who attended. The participants were top notch. I learned a lot and made some good contacts. The content was extremely strong overall ■■

Past Attendee – Hanson Wade Event

Tel: +1 415 735 3289 Mail: info@hansonwade.com



Welcome to the inaugural Longevity Therapeutics 2019

Transforming the latest developments in genetic, cellular and pharmacological research into therapies addressing diseases of aging

In the last few years, there have been **rapid advances in our understanding of the underlying biology of aging.**

These **breakthroughs in aging research** and science are now opening exciting doors for the development of **new therapies and drugs that can target and delay the onset of age-related conditions** – some of them now entering preclinical and clinical development. By mitigating the effects and damage of the aging process itself, these therapies have the exciting potential of extending human healthspan.

Longevity Therapeutics aims to unite the leading biotech drug developers, academics, investors and pharma companies endeavoring to develop innovative anti-aging drugs and overcome specific R&D challenges.

Join your peers to learn more about the latest advances in the understanding of the mechanisms of aging, what approaches are being developed to target them, and to discuss key discovery, preclinical, translational, clinical, regulatory and commercial hurdles faced to develop these drugs.

What Hanson Wade's attendees have said about our meetings

■ All speakers were highly qualified and the presentations were insightful ■

Past Attendee, Hanson Wade Event

■ A very good meeting in terms of presentation topics, interactive workshops and networking ■

Past Attendee, Hanson Wade Event

■ The talks were high quality and the interaction amongst participants was excellent ■

Past Attendee, Hanson Wade Event

5 Key Takeaways

1.

The **Buck Institute for Research on Aging**, **Unity Bio**, **Senolytic Therapeutics**, **Oisin Biotechnologies** and **Mayo Clinic** address the latest advances in the understanding of senescence and innovative senolytic approaches.



2.

Alkahest Inc. and **Stealth BioTherapeutics** share more about their therapeutic approaches targeting plasma proteome (young blood) and mitochondrial dysfunction, respectively.



3.

Insilico Medicine, **BioAge Labs** and **University of Liverpool** delve into how to support and accelerate discovery and translational research with omics and machine learning.



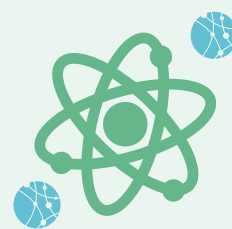
4.

The **National Institute on Aging** and **Yale School of Medicine** explore biomarkers and epigenetic markers of aging.



5.

Albert Einstein College of Medicine, **Life Biosciences**, **Biophytis** and **Carolina Longevity Institute** discuss key challenges in clinical development, regulatory decision-making and commercialization for therapeutics targeting age-related conditions.



Your Expert Speakers



Alex Zhavoronkov
Founder & CEO
Insilico Medicine



Aubrey de Grey
CSO, **SENS Foundation** & VP
of New Technology
Discovery
AgeX Therapeutics



Brian Huber
Chief Operations &
Scientific Officer
**Carolina Longevity
Institute LLC (CLI)**



Darren Baker
Assistant Professor,
Departments
of Pediatric &
Adolescent Medicine
& of Biochemistry &
Molecular Biology
Mayo Clinic



George Tetz
Head of Research
& Founder
**Human Microbiology
Institute**



Jim Mellon
Chairman & Co-
Founder
Juvenescence



Joan Mannick
CMO
ResTORbio



João Pedro de Magalhães
Reader, Integrative
Genomics of Ageing
Group
**University of
Liverpool**



John Lewis
CSO
**Oisin
Biotechnologies**



Judith Campisi
Professor
**Buck Institute for
Research on Aging &
Lawrence Berkeley
National Laboratory**



Kelsey Moody
CEO
**Antoxerene/
Ichor
Therapeutics**



Kristen Fortney
CEO
BioAge Labs



Lindsay Wu
NHMRC Senior
Research Fellow,
UNSW Sydney &
Chief Scientific
Advisor & Co-Founder
Life Biosciences



Lorna Harries
Associate Professor in
Molecular Genetics
**University of Exeter
Medical School**



**Marc Ramis-
Castellort**
Co-Founder &
CEO
**Senolytic
Therapeutics Inc.**



Mark Bamberger
CSO
**Stealth
BioTherapeutics**



Morgan Levine
Assistant Professor,
Department of
Pathology
**Yale School of
Medicine**



Nathaniel David
CEO
**Unity
Biotechnology**



Nir Barzilai
Professor & Director,
Institute for Aging
Research
**Albert Einstein College
of Medicine**



Ronald Kohanski
Deputy Director,
Division of Aging
Biology
**National
Institute on Aging, NIH**



Samuel Agus
CMO
Biophytis



Steven Braithwaite
CSO
Alkahest Inc.

PRE-CONFERENCE WORKSHOP DAY

Tuesday, January 29, 2019

Developing A Preclinical Drug Development Pipeline in Anti-Aging

1.00 – 4.00 PM

Longevity science represents one of the greatest financial opportunities of all time, but also presents novel financial, development, regulatory, and clinical challenges to biotechnology/pharmaceutical entrepreneurs.

In this workshop you will explore the fundamentals of **launching and growing a successful biotechnology/pharmaceutical business** with an emphasis on nuances specific to the **emerging longevity science industry**.

Key topics to be discussed include:

- How to navigate the funding paradigm in the longevity space, and attract investment
- What is the commercial potential of therapeutics targeting age-related conditions?
- Considering and tackling key challenges in R&D for anti-aging therapeutics
- Establishing a clearer understanding of the clinical development and regulatory pathways for these therapeutics

Join us for this interactive discussion and learning session that will bring **practical insights** into the development and bringing to life of a successful pipeline in the anti-aging space.

Workshop Leader



Kelsey Moody
CEO

Antoxerene/Ichor Therapeutics

Mr. Moody is a process-oriented biotechnology executive who has specialized in the study of aging and aging mechanisms for over a decade. Since 2013, he has successfully built Ichor Therapeutics from a living room start-up into a premier, vertically integrated research organization that focuses on pre-clinical drug discovery for pathways of aging. R&D initiatives that constitute Ichor's portfolio companies span enzyme therapy (Lysoclear, Inc.), small molecule drug discovery (Antoxerene, Inc.), antibody mimetics (Auctus Biologics, Inc.), protein chemistry tools (RecombiPure, Inc.), and a pre-seed strategic investment fund (Grapeseed.Bio).

■ All speakers were highly qualified and the presentations were insightful ■

Past Attendee, Hanson Wade Event

■ A very good meeting in terms of presentation topics, interactive workshops and networking ■

Past Attendee, Hanson Wade Event

CONFERENCE DAY ONE

WEDNESDAY, JANUARY 30, 2019

 John Lewis Oisin Biotechnologies	8.00 Chair's Opening Remarks
 Nathaniel David CEO Unity Biotechnology	8.15 Advances in Senolytic Approaches for Disease of Aging - Understanding aging as a multi-mechanism process - Addressing senescence as a driver of features of aging - Exploring senolysis as a means to blunt specific diseases - Developing senolytic medicines for age-related diseases
 Judith Campisi Professor Buck Institute for Research on Aging & Lawrence Berkeley National Laboratory	8.45 Aging & Drug Discovery – The Next Frontiers in Senolytics - Exploring how cellular senescence is invoked by physiological signals and stressful stimuli, can be beneficial or detrimental, and entails a tripartite phenotype – an irreversible block to cell proliferation - Establishing how senescent cells increase during aging, in response to stress and are causal drivers of several age-related pathologies, ranging from neurodegeneration to cancer - Discussing the strengths and weaknesses of these approaches and strategies for improving their efficacy
 Aubrey de Grey SENS Foundation & AgeX Therapeutics  Judith Campisi Buck Institute for Research on Aging  Nir Barzilai Albert Einstein College of Medicine	9.15 Keynote Panel: A Therapeutic Revolution Against Aging – Bridging the Gaps & Opportunities - Exploring what we know and what we don't know about the aging process - Exploring the targeting of aging as a disease vs. aging as a common factor for different conditions - Analyzing the current R&D landscape for anti-aging therapeutics - Key challenges in discovery and progression of pipelines - Greatest promises for healthspan improvement - Addressing and dealing with pseudo-science and off label products - Are the gaps in our understanding of the basic biology of aging in model organisms and humans preventing the development of new approaches? - Discussing recent breakthroughs and the growing interest in this space – attracting funding/partnerships, important learnings to date and perspectives on future directions
	10.00 Speed Networking Session
	10.30 Morning Refreshments
Developing Innovative Therapeutic Approaches Targeting Age-Related Diseases – PART 1: Senescence	
 Lorna Harries Associate Professor in Molecular Genetics University of Exeter Medical School	11.00 Influencing Splicing Factor Expression to Target Senescence - Analyzing the unclear molecular basis for human aging being a heterogeneous condition, where some succumb to age-related diseases at a relatively early age - Exploring cellular plasticity and how it is determined predominantly by alternative splicing – by which 95% of our genes produce more than one transcript in a regulated fashion - Determining that transcripts involved in these processes are amongst the most deregulated mRNAs during human aging in population studies, and also in fibroblasts that have undergone replicative senescence in vitro - Treating senescent primary human fibroblasts with small molecules that influence splicing factor expression to rescue multiple features of cellular senescence in aged human cells – determining how small molecule modulators of splicing factor expression may represent promising novel anti-degenerative therapies in the future

 Marc Ramis-Castellort Co-Founder & CEO Senolytic Therapeutics Inc.	11.30 The Challenge of Developing Novel Senolytic Medicines - Exploring cellular senescence: fibrosis and cancer - Describing our approach to design senolytic medicines - STX077 targeted therapy: a versatile drug delivery system - STX255 immuno-senescence approach
 Darren Baker Assistant Professor, Departments of Pediatric & Adolescent Medicine & of Biochemistry & Molecular Biology Mayo Clinic	12.00 The Role of Senescent Cells in Neurodegeneration – New Data - Addressing the accumulation of senescent cells in tissues in prematurely aged mice - Eliminating senescent cells to alleviate tissue degeneration and extend life in normal mice - The contribution of senescent cells to neurodegenerative disease (and other diseases of aging)
	12.30 Lunch & Networking
 John Lewis CSO Oisin Biotechnologies	2.00 A Novel Apoptotic Gene Therapy Approach for Systemic Senolysis - Overviewing Oisin's LNP Gene Therapy Platform for selective ablation of senescent cells - Discussing recent biodistribution and efficacy results in small and large animal models - Updating on recent longevity data in animal models - Overviewing clinical development plans
Developing Innovative Therapeutic Approaches Targeting Age-Related Diseases – PART 2	
 Steven Braithwaite CSO Alkahest Inc.	2.30 Therapeutics from Plasma: Targeting Chronokines for Disorders of Aging - Exploring novel insights into aging through the plasma proteome - Detailing on how functional drivers in plasma provide peripheral targets for CNS disorders - Establishing a multimodal therapeutic approach for age-related disorders - Rapid clinical advancement of highly differentiated therapeutics
 Mark Bamberger CSO Stealth BioTherapeutics	3.00 Mitochondrial Dysfunction & Aging: Elamipretide as a Potential Intervention - Understanding how mitochondrial dysfunction is complicit in multiple age-related diseases - Demonstrating the potential to impact aging by improving mitochondrial function in preclinical studies - Introducing Elamipretide, a novel, first in class mitochondrial therapeutic in clinical development - Exploring how multiple preclinical studies support elamipretide as a potential therapy for age-related diseases
 George Tetz Head of Research & Founder Human Microbiology Institute	3.30 Tetz's Theory of Longevity: from Mathematical Model to Novel Anti-Aging Targets - Addressing the Tetz's theory of longevity – introducing new targets to extend longevity - Exploring novel, previously overlooked factors that play a key role in aging and control lifespan - Describing the method – based on a unique model of the interplay among (i) macroorganism, (ii) microbiota and (iii) non-living genetic elements including cell-free DNA - Tetz's theory of longevity: determining longevity and aging by the accumulation of alterations in the totality of DNA of the host macroorganism, microbiota, and their non-living genetic elements - Tetz's law: lifespan is the time required for the accumulation of alterations in the Individual Pangenome (IP) to reach a point that is not compatible with life - Developing a new approach to evaluate biological age and identified novel targets for the development of fundamentally new ways to affect lifespan
	4.00 Afternoon Refreshments & Networking

Supporting Discovery in Aging Research With Big Data

 Alex Zhavoronkov Founder & CEO Insilico Medicine	4.30 Modern Artificial Intelligence for Longevity Biotechnology • Detailing how artificial techniques such as deep learning, reinforcement learning (RL), and generative adversarial networks (GANs) present opportunities for studying the biology of aging on many levels and generating hypotheses for interventions • Developing multi-modal predictors of age using a variety of data types ranging from imaging and common blood tests to transcriptomic and microbiomic data - pioneered the applications of modern AI to aging research • Using GANs to generate synthetic patient data and identify novel targets and causal graphs • Exploring the most recent advances in modern and next-generation AI for biology and chemistry conducted in the labs of Insilico Medicine worldwide
 Kristen Fortney CEO BioAge Labs	5.00 Data-driven Approaches to Identifying Circulating Factors That Drive Aging • Exploring how omics data enables us to study aging directly in humans, rather than less translationally relevant model systems • Focusing on omic phenotyping of human aging cohorts that have decades of follow-up EHRs • Integrating multiple data modalities for data-driven discovery of key aging targets
 João Pedro de Magalhães Reader, Integrative Genomics of Ageing Group University of Liverpool	5.30 Prioritizing Drugs & Targets in Aging Research • Exploring network pharmacology and machine learning approaches applied to lifespan-extending compounds • Presenting DrugAge, a curated database of lifespan-extending drugs and compounds, and its data analysis • Providing insights into lifespan-extending compounds and the genes and pathways they target - identifying and prioritizing further compounds with potential life-extending properties, which we validated experimentally
 John Lewis Oisin Biotechnologies	6.00 Chair's Closing Remarks

■ All speakers were highly qualified and the presentations were insightful ■

Past Attendee, Hanson Wade Event

CONFERENCE DAY TWO

THURSDAY, JANUARY 31, 2019

 John Lewis Oisin Biotechnologies	8.20 Chair's Opening Remarks
 Jim Mellon Chairman & Co- Founder Juvenescence	8.30 Investing in the Age of Longevity - Describing how in the next few decades, life expectancy in developed world will increase to 110-120 years - Discussing how this increase will be driven by therapies that exist today, and does not account for regenerative medicine and gene therapies that could extend life beyond the currently accepted limit of around 120 years of age - Outlining how longer lives will transform society and change the trajectory of education, careers and retirement - The dawning of the longevity industry – undoubtedly growing to be the largest industry on the planet
Enhancing Preclinical Development & Translation Research	
 Ronald Kohanski Deputy Director, Division of Aging Biology National Institute on Aging, NIH	9.00 Biomarkers for Basic and Translational Research - Outlining the complexity of biomarkers of aging due the interactivity of pillars of aging - Linking biomarkers to physiological declines that could be measured through increased frailty or decreased activities of daily living - Exploring the need to accommodate variance in biomarkers and account for “medical conditions that are not age” as potential exclusion criteria for the occurrence of outliers with increasing age
 Morgan Levine Assistant Professor, Department of Pathology Yale School of Medicine	9.30 Altered Methylation Landscapes in Biological Aging - Discussing differences between existing epigenetic measures of aging, e.g. Epigenetic Clocks - Presenting novel higher-order epigenetic measures - Highlighting the application of such measures for evaluating Geroprotective Interventions
	10.00 Morning Refreshments & Networking
 Aubrey de Grey CSO, SENS Foundation & VP of New Technology Discovery AgeX Therapeutics	10.30 Rejuvenation Biotechnology: Addressing Delivery Challenges in Gene & Stem Cell Therapy - Analyzing how regenerative medicine and other new biomedical technologies will eventually be so comprehensive that people will stay truly youthful however long they live - Outlining an innovative approach for stem cell delivery for neurodegenerative diseases - Exploring gene therapy potential in aging and how to deliver large cargos with very high insertion-site specificity
 Kelsey Moody CEO Antoxerene/Ichor Therapeutics	11.00 Hard Problems Need Hard Assets: Building, Discovering & Translating A Small Molecule Senolytic - Developing first-in-class small molecule senolytic drugs for pathways of aging - Analyzing the latest data
 Marc Ramis-Castellort Senolytic Therapeutics Inc.  Steven Braithwaite Alkahest Inc.  Ronald Kohanski National Institute on Aging, NIH	11.30 Panel Discussion: Tackling Preclinical & Translational Challenges in Aging-Related Therapeutics - How applicable to human aging is any given result in a model organism? - How to promote advances in biomarker discovery and validation in aging - Defining routes for translational success from discovery to clinic – what will be the key factors for generating successful results? - Standardizing different classes of therapeutic approaches to achieve effective anti-aging outcomes



12.15 Lunch & Networking

Exploring Clinical Development, Regulatory & Commercial Considerations



Nir Barzilai
Professor & Director,
Institute for Aging
Research
Albert Einstein
College of Medicine

1.15 TAMEing Aging

- Exploring metformin – a generic, cheap and safe drug used to treat Type 2 diabetes mellitus (T2DM), which targets biology of aging, extends health span and life span in animals
- Showing that metformin targets this biology in muscle and adipose tissue of elderly
- Numerous clinical and observational studies in humans show that metformin therapy delays diabetes, cardiovascular diseases, all kind of cancers, Alzheimer's and mortality
- Describing a novel study design that addresses the need to define aging in a clinical way
- Addressing regulation – FDA is helping design this study so if outcomes are achieved aging will become a regulatory target



Lindsay Wu
NHMRC Senior
Research Fellow,
UNSW Sydney &
Chief Scientific
Advisor & Co-Founder
Life Biosciences

1.45 Spreading The Bets: A Systematic Approach to The Clinical Development of Drugs To Treat The Biology Of Ageing

- Analyzing the fragmentation of clinical translation of pathways that control biological aging
- Developing a drug development incubator with experienced biopharmaceutical industry veterans to advance the clinical translation of these therapeutics – establishing Life Biosciences
- Discussing the Life Bioscience's model, the science underlying the programs, and how we can translate drugs to treat aging into the clinic



2.15 Mastermind Session: Supporting the Successful Discovery & Development of Innovative Medicines Against Diseases of Aging

This session facilitates in-depth discussions among participants in an informal environment. After splitting into groups, participants will discuss key issues and challenges regarding the current landscape of aging research and related drug development.



3.00 Afternoon Refreshments & Networking



Joan Mannick
CMO
ResTORbio

3.30 TORC1 Inhibition as an Immunotherapy to Decrease Respiratory Tract Infections in the Elderly

- Discussing the role of mTOR in aging
- Overviewing resTORbio's TORC1 inhibitors
- Reviewing of Phase 2 clinical trials analyzing the effects of TORC1 inhibitors on immune function and respiratory tract infection rates in elderly subjects



Samuel Agus
CMO
Biophytis

4.00 Addressing the Challenges of the Aging Population - Taking a Holistic View

- Analyzing the link between general function and clinical outcomes in the elderly
- What can we learn from rare genetic disorders?
- How to address variability in target populations
- Addressing the need for innovation in clinical trial design in genetic and age-related disorders



Brian Huber
Chief Operations &
Scientific Officer
Carolina Longevity
Institute LLC (CLI)

4.30 Clinical Evaluation & Regulatory Considerations in the Approval of Biopharmaceuticals for Health-Span Indications

- Discussing how the clinical development strategy and regulatory approval pathway for health-span and longevity related biopharmaceutical drugs is still evolving and being established
- Exploring lessons learned from other examples where the clinical indication needed to be established and the approval pathway created
- Drawing parallels and hypothesizing pathways



John Lewis
Oisin
Biotechnologies

5.00 Chair's Closing Remarks

WHY PARTNER?

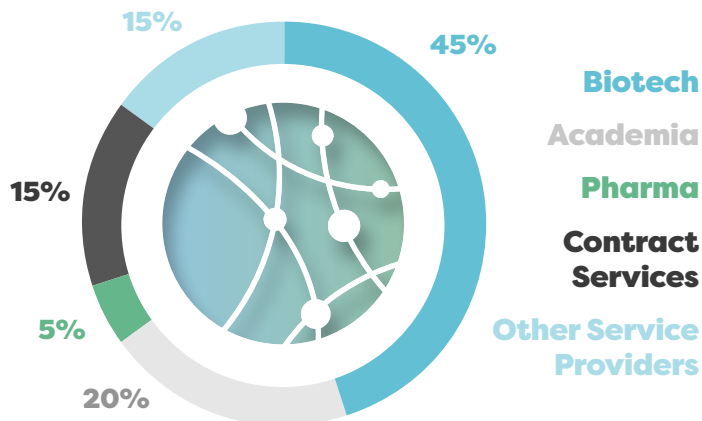
Longevity Therapeutics will bring together leading experts and top organizations advancing aging research.

These companies are **actively seeking partners to overcome challenges in developing new and innovative anti-aging therapeutics**, following the increasingly growing investment taking place in this space. This is your chance to showcase your expertise in the following areas:

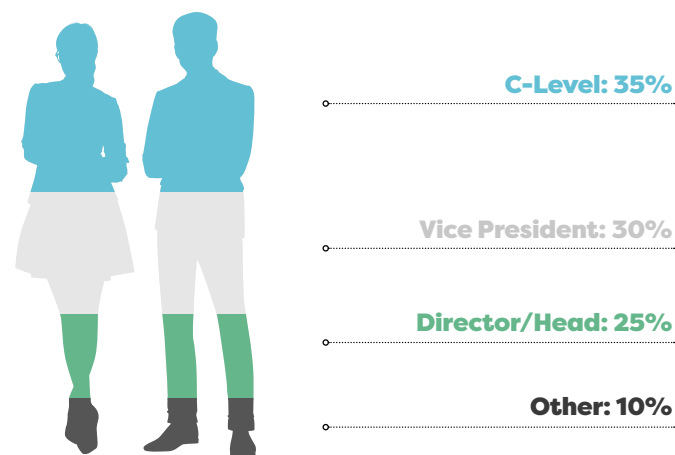
- **Contract research** – accelerate and support preclinical and clinical research and development and position yourself as the leading CRO in the space
- **Genetic screening** – showcase your capabilities to boost the discovery process
- **Cell & Metabolic Analysis** – communicate your capabilities to enhance testing and analysis with different cell types and model organisms
- **Data Analysis** – demonstrate your lead in utilizing machine learning, omics and biomarkers to speed up the discovery and identification of novel targets

Get in touch today to learn more about partnership opportunities that will align you as a partner of choice in this fast-growing space.

EXPECTED AUDIENCE BY ORGANIZATION*



EXPECTED AUDIENCE BY SENIORITY*



Based on recent market research

ATTENDING COMPANIES



For more information about partnering with this meeting, please contact:



Nathan Wilgoss
Partnerships Director
Tel: +1 415 735 3289
Email: sponsor@hansonwade.com

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- ① Accelerate the development of innovative anti-aging therapeutics
- ② Become a part of the growing excitement and advances in the aging research space
- ③ Hear from KOLs how to tackle key R&D challenges to target aging

Register
by Friday,
November 16
**TO SAVE UP
TO \$300**

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