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February 26-28, 2018
San Francisco, CA
ai-drugdiscovery.com

AI PHARMA INNOVATION DRUG DISCOVERY

Effective Adoption & Practical Application of AI & Machine Learning Technologies to Accelerate & Enhance the Discovery of Safe, Effective and Value-Based Drugs

Expert Speakers Including:

Brandon Allgood
CTO
Numerate

Ed Addison
CEO
Cloud Pharmaceuticals

Michael Palovich
Senior Director and Senior Fellow; In Silico Unit
GSK

Francis Kendall
Digital Strategy Leader
Roche

Hugo Ceulemans
Scientific Director Discovery- Data Sciences
Johnson & Johnson

Natalija Jovanovic
Head Digital Catalyst & Digital Strategy
Sanofi

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AI Application in Pharma

hansonwade

AI Pharma Innovation: Drug Discovery Summit 2018

Optimize Your Effective Adoption & Practical Application of AI & Machine Learning Technologies to Accelerate & Enhance the Discovery of Safe, Effective and Value-Based Drugs.

The AI Pharma Innovation: Drug Discovery Summit will bring together the leading scientists, technology developers, and key decision makers in the pharmaceutical and biotechnology industries.

Assess and address key challenges standing in the way of the adoption and practical application of AI and machine learning technologies across the early phases of drug discovery value chain in order to increase levels of pharmaceutical innovation and maximize drug discovery assets.

The bar for cutting-edge medicine has been raised as the pharmaceutical industry is facing tougher medical challenges with lower probability of success. This meeting seeks to provide new insights and experiences on how to move away from the hype surrounding AI and machine learning technologies and move towards practical application of AI based innovations to optimize resources for maximum research and discovery, especially within the hit-to-lead phase of drug discovery.

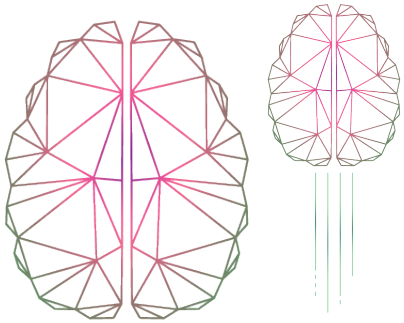
What Hanson Wade's attendees have said about our meetings

"Promising new conference that I am looking forward to attending again"

Marko Zivkovic
Chief Scientific Officer
Genesis Research

"Insightful knowledge sharing with like minded people"

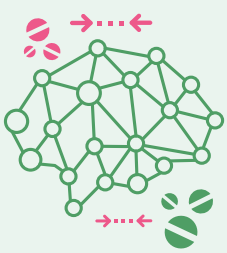
Neil Cardoso
Senior Clinical Data Science Lead,
EMDSerono



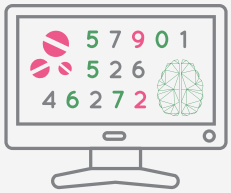
Why Attend AI Pharma Innovation: Drug Discovery Summit 2018?

1.
Understand how AI & machine learning is disrupting the current approach to drug discovery

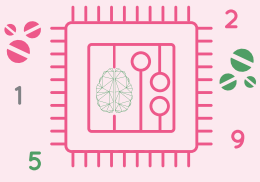
2.
Debate, challenge and cut through the hype surrounding the use of AI in pharmaceutical industry towards practical applications



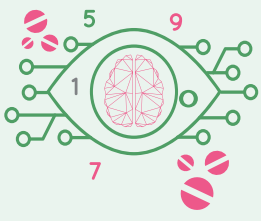
3.
Address the issues surrounding data preparation, assessment & implementation to achieve insightful AI driven outputs



4.
Through real world case studies from the likes of GSK, Roche, J&J & Genentech learn how to harness AI and machine learning to optimize novel drug discovery, drug repositioning strategies and identify effective therapeutics as quickly as possible



5.
Find out what is the future direction of AI-driven drug discovery projects from the key decision makers within big pharma and biotech companies



Your Expert Speakers

Brandon Allgood
CTO
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Ed Addison
CEO
Cloud Pharmaceuticals

Michael Palovich
Senior Director and Senior Fellow; In Silico Unit
GSK

Francis Kendall
Digital Strategy Leader
Roche

Ron Alfa
VP, Discovery & Product
Recursion Pharmaceuticals

Hugo Ceulenams
Scientific Director Discovery- Data Sciences
Johnson & Johnson

Sang Ok Song
COO
Standigm

Leonardo Rodrigues
Associate Director, Advanced Analytics
BERG

Tudor Oprea
Professor - Medicine & Chief of Translational Informatics & Internal Medicine
University of New Mexico

Guido Lanza
CEO
Numerate

Carolina Garcia Rizo
CBO
Just Biotherapeutics

Shaun Comfort
Associate Director & Senior Safety Science Leader
Genentech

Enrico Ferrero
Scientific Leader- Computational Biologist
GSK

Natalija Jovanovic
Head Digital Catalyst & Digital Strategy
Sanofi

Asim Siddiqui
CTO
NuMedii

Randal Ketchem
VP, Molecular Design
Just Biotherapeutics

Gerald A. Higgins
Research Professor, Computational Medicine and Bioinformatics
University of Michigan Medical School

Ben Allen
Senior Computational Research Scientist
e-Therapeutics

Rafael Depetris
Principal Scientist I
Kadmon Pharmaceuticals

Conference Day One | Tuesday, 27th February, 2018

8.00 Coffee & Registration

8.50 Chair's Opening Remarks

The Fundamentals of Setting Up a Successful AI & Machine Learning Approach in Drug Discovery

Leonardo Rodrigues
Associate Director- Advanced Analytics
BERG

9.00 Case Study: Deploying an AI-driven Drug Discovery Platform

- How AI is disrupting the current drug discovery status quo?
- What are the policies & approaches necessary to deploy a successful AI based drug discovery pipeline?
- Which actionable outcomes AI has already delivered in the drug discovery field?

Ben Allen
Senior Computational Research Scientist
e-Therapeutics

9.30 Case Study: Preparation of Chemical Data Sets for Machine Learning Analysis

- How to turn chemicals into data?
- How to deal with spare, noisy data?
- How e-Therapeutics uses this data?

10.00 Discuss: Evolution of Machine Learning Approaches into Deep Learning Approaches for Drug Discovery: Unlocking the Potential While Avoiding the Hype

- Is big data a big failure?
- What lessons have been learned that are applicable to "AI"?
- Is AI just a hype?

Tudor Oprea
Professor - Medicine & Chief of Translational Informatics & Internal Medicine
University of New Mexico

Leonardo Rodrigues
Associate Director- Advanced Analytics
BERG

Asim Siddiqui
CTO
NuMedii

10.45 Speed Networking & Morning Refreshments

Matching AI & Machine Learning to Biopharma's Challenges

Francis Kendall
Digital Strategy Leader
Roche

11.45 Case Study: Big Pharma Perspective on the Use of AI & Machine Learning

- Potential ways to use AI & machine learning in drug discovery/development
- Considerations when thinking of using AI & machine learning
- A perspective on "black box" AI

Randal Ketchem
VP- Molecular Design
Just Biotherapeutics

12.15 Case Study: Improving Bio-therapeutic Development Through AI Technologies

- Large scale, curated, data collection across therapeutic development pipeline to enable predictive modeling and automated decision making
- Predicting molecular properties from sequence to allow exploration of design space in silico in search of optimal therapeutic molecules
- Predictive models to incorporate both the complexity of biology and therapeutic development behavior

Enrico Ferrero
Scientific Leader- Computational Biologist
GSK

12.45 Case Study: Predicting Novel Drug Targets Using Machine Learning and the Open Targets Data

- Challenges in target identification & validation due to poor association between drug targets & the disease
- Use of semi-supervised classification approach to explore gene-disease associate data from the Open Targets platform
- Application of neural network in predicting accurate genes or proteins as drug targets

Sang Ok Song
COO
Standigm

13.15 Case Study: How Drugs or Patients Can Be Represented to Infer Therapeutic Insights

- Deep learned representations of drug responses improve drug indication and target predictions
- Representation learning of electronic medical records gives insights into drug discovery
- Showcases of Standigm applicable artificial intelligence

13.30 Networking Lunch

Zooming the Spot Light on the Critical Issues: Voice, Exchange & Evaluate Ideas

14.30 Discuss: If the Strength of AI Is in Translation How to Make Smart/Strategic Decisions in Early Phases of Drug Discovery Based on the Lessons Learned from Failed Clinical Trials?

- Most of the money is spent in clinical development but most of the decisions are made in drug discovery! How feasible this model is?
- Short term versus long terms goals/milestones of AI-driven projects
- Target Prioritization
- Development of similarity based drug repurposing models

Francis Kendall
Digital Strategy Leader
Roche

Ron Alfa
VP- Discovery & Product
Recursion Pharmaceuticals

Enrico Ferrero
Scientific Leader- Computational Biologist
GSK

Carolina Garcia Rizo
CBO
Just Biotherapeutics

15.15 Discuss: The Big Pharma Perspective Around Data Partnership with Smaller Pharma Companies, Biotech Companies and Solution Providers

- What is the best model of collaboration/partnership?
- Are AI-driven biotech companies leading the way?
- Are the solution providers trying to solve the right problem?

Guido Lanza
CEO
Numerate

Michael Palovich
Senior Director and Senior Fellow; In Silico Unit
GSK

Hugo Ceulemans
Scientific Director Discovery- Data Sciences
Johnson & Johnson

Natalija Jovanovic
Head Digital Catalyst- Digital Strategy
Sanofi

16.00 Afternoon Refreshments

AI Pharma Innovation Drug Discovery Breakout Roundtables

16.30 Roundtable Discussions:

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. How to industrialize AI & machine learning into practical level ?

2. How to best change cultural influences to expedite the adoption & application of AI in pharma?

3. The bottleneck to innovation: Discussing the regulatory acceptance for AI technology in pharma

17.00 Chair's Closing Remarks & End of Day One

> "Very good, the breadth of topics on offer helped provide some really good perspective"

Richard Kelsey
Senior Manager,
Accenture

Conference Day Two | Wednesday, 28th February, 2018

8.00 Breakfast & Networking

8.50 Chair's Opening Remarks

Enhancing Drug Discovery Productivity Using AI & Machine Learning Technologies

Hugo Ceulemans
Scientific Director Discovery- Data Sciences
Johnson & Johnson

9.00 Case Study: Massive Scale Machine Learning for Integrative Compound Activity Prediction

- Multitask learning at industrial scale boosts predictive performance
- Enlisting alternative data sources like cellular images and transcriptional profiles for compound boosts predictive performance
- Towards collaborative learning from private data

Ed Addison
CEO
Cloud Pharmaceuticals

9.30 Case Study: Pure AI Approach Versus Augmented Intelligence Approach: Augmentation of Data Using AI to Predict Missing Data to Consequently Build Disease Models

- How to optimize the decision making process?
- Is cognitive technology they way forward?
- How to prepare for augmented intelligence as an emerging technology?

Ben Allen
Senior Computational Research Scientist
e-Therapeutics

10.00 Case Study: Discovery of New Chemical Entities Using Network-driven Drug Discovery Augmented by AI

- What is network driven drug discovery?
- How does AI/machine learning contribute to this approach?
- Validation case studies

10.30 Morning Refreshments

Practical Applications of AI & Machine Learning in Drug Discovery

Brandon Allgood
CTO
Numerate

11.00 Case Study: Harnessing the Power Of AI to Improve Translation: From Biology to Discovery and Discovery to Development

- Novel molecule modulation for identified targets
- Optimizing molecule properties/profiles to enhance productivity
- PK/PD modelling & simulation
- Evaluating compound's ADMET characteristics

Ron Alfa
VP- Discovery & Product
Recursion Pharmaceuticals

11.30 Case Study: Multi-dimensional Drug Discovery with AI-enabled Phenomics

- Combining AI methods with high throughput phenomics enables drug discovery at a radical pace
- Cellular images contains a wealth of biological information that can be used for drug discovery campaigns and hit prioritization
- Recursion is systematically mapping human biology through images

Rafael Depetris
Principal Scientist I
Kadmon Pharmaceuticals

12.00 Case Study: The Role of Structural Analysis in the Improvement of AI Methods Used in Drug Design

- Current status and challenges for the application of AI in drug discovery
- Describing the methods based on structural analysis for the generation of protein fingerprints and how that contributes to small molecule drug discovery
- Challenges for the application of AI methods in the development of therapeutic antibodies

12.30 Networking Lunch

Current Focus of AI & Machine Learning Technologies in Drug Discovery

Tudor Oprea
Professor - Medicine & Chief of Translational Informatics & Internal Medicine
University of New Mexico

13.30 Case Study: Accurate Data and Domain Expertise: Key Ingredients of AI-driven Target and Drug Discovery

- Illuminating the Druggable Genome is an NIH project focused on accurate data wrangling, processing and analytics for target discovery
- DrugCentral, an on-line compendium for drugs and drug targets, can serve as basis for understanding the molecular basis of therapeutic action
- Drug-, protein- and disease- knowledge graphs can be used to enable AI systems in drug discovery

Shaun Comfort
Associate Director, Senior Safety Science Leader
Genentech

14.00 Case Study: Machine Learning for Safety Risk Models in Development

- Leveraging what we know about the drug & the available data
- The use of pharmacovigilance data in AI-driven drug repurposing approaches
- Developing risk models with or without machine learning: Almost no one does this explicitly

14.30 Afternoon Refreshments

What the Future of AI & Machine Learning in Drug Discovery Holds: The Emerging Trends

Asim Siddiqui
CTO
NuMedii

15.00 Case Study: The Application of AI & Machine Learning in Multi-target Drug Discovery: Polypharmacology

- In silico approaches for polypharmacology and its application
- Challenges of integrating big data in biology
- Application of knowledge and algorithms for drug discovery

Gerald A. Higgins
Research Professor-Computational Medicine and Bioinformatics
University of Michigan Medical School

15.30 Case Study: Deep Learning in Pharmacogenomics: From Drug Discovery to Patient Stratification

- Promising applications of pharmacogenomics drug discovery and development as well as medication optimization
- Identification of regulatory pharmacogenomic variants and drug target discovery using deep learning
- The predictive power of machine learning is realized when it is combined with prior domain knowledge, such as gene networks and pharmacodynamic pathways

16.00 Chair's Closing Remarks

16.30 Close of Day Two & End of AI Pharma Innovation: Drug Discovery Summit 2018

Pre-Conference Workshops | Monday, 26th February, 2018

Workshop A

AI in Drug Discovery: A Workshop on Strategies & Applications

09:00 – 11:30

This interactive workshop session will delve deep into the multiple applications of AI & machine learning while addressing the bottlenecks and opportunities to assess success and failure of AI-driven drug discovery projects.

- Fundamentals, challenges & opportunities of machine learning, deep learning & probabilistic computing
- Datasets: Opportunities & obstacles with specific reference to electronic health records & genotype-enabled electronic health records
- Applications in drug discovery: Drug repurposing, ligand-based & structure based prediction of bioactivity, de novo drug design & toxicology
- Case studies: DeepSEA, Basset, DeepChem, DeepMetabolism & Deep Pharmaco-phenomics

Workshop Leader

Dr. Gerald A. Higgins, Research Professor, Computational Medicine and Bioinformatics, **University of Michigan Medical School**

Dr. Gerald A. Higgins is Research Professor of Computational Medicine and Bioinformatics at the University of Michigan Medical School. His background includes chief of molecular neurobiology at the NIH, VP of R&D of Laerdal Medical Corporation, CIO of MedStar Health Hospital network, several start-up companies (e.g., SimQuest, Medscape), and VP of pharmacogenomic science at Assurex (now Myriad Genetics). His research combines expertise in pharmacogenomics, psychiatry, and computational analysis to understand human brain networks involved in psychotropic drug response. His work using artificial intelligence emphasizes pharmacology expertise combined with development of UX (user interface) design to enhance understanding by experimental biologists.

Workshop B

How to Use the Wealth of Data Sets Currently Available Within the Pharma Industry to Set up an AI-driven Drug Discovery Approach?

13:30 - 16:00

The pharma industry is investing in AI & machine learning technologies as the drug discovery paradigm shifts towards safe, effective and value-based drug discovery. Our workshop focuses on how to leverage the large datasets currently available as well as how to successfully identify, prepare, assess and implement data into AI algorithms.

- Data quality versus data quantity
- How to avoid the 'junk in, junk out' scenario by cleaning & prioritizing data?
- Accepting the data noise/dirt and dealing with the integrity of the output generated by AI platforms

Workshop Leader

Leonardo Rodrigues, Associate Director, Advanced Analytics, **BERG**

Leonardo Rodrigues, Ph.D. is the Associate Director of Advanced Analytics at BERG. With more than 15 years of experience in data analysis and R&D, Dr. Rodrigues is a reference in applying AI and advanced analytical methods to extract actionable insights from clinical and biological data. At BERG, he leads the research and analysis of disruptive projects, as well as the development and deployment of innovative analytics technologies and IT platforms. Dr. Rodrigues holds a Ph.D. in Biochemistry and concluded his postdoctoral studies at the Whitehead Institute-MIT, where he applied statistics, bioinformatics, and molecular/cell biology in the study of cancer stem cells and metastasis initiation.

WHO WILL YOU MEET?

80+ ATTENDEES

6+ HOURS OF DEDICATED NETWORKING

2 INTERACTIVE WORKSHOPS

17+ REAL WORLD CASE STUDIES

WHY ATTEND THE AI PHARMA INNOVATION: DRUG DISCOVERY SUMMIT 2018?

With the pharmaceutical industry weary of novel technologies and the need to prove value, access a unique audience of drug discovery professionals who are genuinely assessing, adopting and applying AI and machine learning to optimize their drug discovery methods and rapidly identify future successful candidates.

Identify, interact and forge meaningful relationships with contacts who are bought in and will champion the use and application of AI within their drug discovery operations.

PARTNERS

Numerate

Panel Partner:

Numerate has mastered the conflicting demands of complex signal processing by applying advanced, proprietary AI, evolved to use all available data – literally everything the industry currently knows, against multiple, simultaneous drug design objectives. We model real biology and apply our models at a massive scale, sifting through noise to follow signals that elude other approaches.

www.numerate.com

Standigm

Spotlight Partner:

Standigm applies cutting-edge AI technologies to drug discovery and development. Both AI and biology experts team up to build real-world AI models to enhance and accelerate drug discovery productivity.

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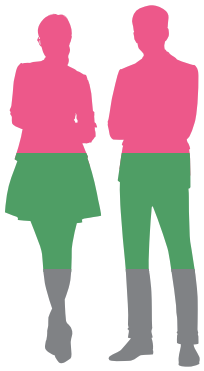
WHY SPONSOR?

1. **Benefit from Market Intelligence**
Hear how and where pharmaceutical giants are looking to adopt and apply AI, enabling to match your solutions accordingly.
2. **Position Yourself as an Industry Thought Leader**
Pharma doors are now open to the idea of integrating AI programs. At this juncture it is crucial to stand out from the crowd. Demonstrate your expertise through podium presentations, moderating panel discussions or interactive roundtables.
3. **Raise Brand Awareness**
Benefit from pre and post conference exposure to our AI community and increase market share through unique branding formats.
4. **Meet and Network with Industry Pioneers**
With a room full of drug developers looking to see how they can effectively apply AI solutions, meet prospective clients during speed networking breaks, 1-2-1 meetings and more informal networking receptions.
5. **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.

SENIORITY OF ATTENDEES*



- C-Suite & VP Level : 40%
- Director Level : 40%
- Other: 20%

GET INVOLVED

James Woodcock
Commercial Director – AI Pharma Innovation Event Series
Tel: +44 (0) 20 3141 8739
Email: james.woodcock@hansonwade.com

READY TO REGISTER?

3 EASY WAYS TO BOOK

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Email: register@hansonwade.com

www.ai-drugdiscovery.com/register/register-your-interest

1. Understand how to overcome the key cultural & technical challenges in the integration of AI & machine learning in drug discovery
2. Address the issues surrounding data preparation, assessment & implementation to achieve insightful AI driven outputs
3. Through case studies, learn how to harness AI and machine learning to optimize drug discovery productivity, drug repositioning strategies and identify effective therapeutics as quickly as possible

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

Package Details	Register & Pay before 24 November 2017 **(Save $700!)**	Standard Prices
GOLD Conference + 2 Workshops	$3,097	$3,797
SILVER Conference + 1 Workshop	$2,598	$3,298
BRONZE Conference Only	$2,099	$2,799
Workshop Only	$599	
2 Workshops	$998	

*Special 40% off for academics available upon request

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