



## Defining AI in Drug Discovery and Development

The must-attend event of the year for anyone interested in, or involved with, the application of Artificial Intelligence and machine learning in Pharma. This program is the result of extensive research with industry leaders, and uses the latest techniques to maximum learning. You will leave the summit confident you are up to date with ideas to take back and new connections to develop.

**October 17<sup>th</sup>, 2017 – The State Room, Boston, MA**

**8:00 Registration & Innovation Breakfast**

- Gear yourself up for the day with brain fuel
- Use this early opportunity to begin discussions that will shape the agenda

**State of Play in the Industry: AI in Pharma**

**9:00 Chairman's Opening Remarks & Setting the Scene**

- Official welcome and look ahead to the learning and networking opportunities for the event
- Understand how we arrived at this point in the history of the application of AI in the pharmaceutical industry
- What should we expect to have learnt by the end of The AI in Pharma Summit?

**9:10 The Beginning of the AI Revolution in Pharma: Building a Pipeline by AI-Driven Discovery**

- A look at the key scientific, tech and market factors that have kick-started this revolution
- Use of data driven AI technologies can initiate *de novo* therapeutic programs and lead the industry into new dimensions in cancer, neurodegeneration and endocrinology
- BERG will discuss specific case studies on active drug development programs initiated with discovery work driven by BERG Interrogative Biology®

**Slava Akmaev**, Senior Vice President & Chief Analytics Officer, **Berg Health**

**Leonardo Rodrigues**, Associate Director, Advanced Analytics, **Berg Health**

#### 9:40 **Interactive Keynote Panel and Open Q&A: What's Holding Back the Application of AI in Pharma?**

Defined by the audience, this interactive panel will provide an unprecedented opportunity to discuss the most pressing questions of AI with the leading minds in the industry. Dedicated to defining the greatest challenges with the adoption and application of AI in pharma, this session will define the learning objectives for the summit. Shape the discussion through live questions voted on by the audience, including:

- How “unsustainable” is the current model of drug discovery and development in terms of scientific enterprise and commercial success?
- Is pharma successfully adapting to the ever-increasing influx of tech companies into drug discovery and development?
- Initiating discussions and collaborating with tech developers – what are the factors for success on both sides of the partnership?
- What are the key internal factors to consider when deciding and defining a strategy to apply AI and machine learning?
- How should pharma be looking to harness the lessons learnt and expertise from the tech experts and industry's that have achieved success with AI and machine learning?

**Milind Kamkolkar**, CDO, **Sanofi**

**Morten Sogaard**, Vice President & Head, WRD Genome Sciences & Technologies, **Pfizer**

**Slava Akmaev**, Senior Vice President & Chief Analytics Officer, **Berg Health**

**Chandra Ramanathan**, Vice President & Head, East Coast Innovation Center, **Bayer**

10:20

#### **Speed Networking & Morning Refreshments**

Utilize this fast-paced networking session to make connections with over half of the audience and speaker faculty in under an hour. Introduce and swap business cards with as many KOL's as possible to follow-up later-on for more detailed discussions and networking.

### **Research Showcase** **How and Where is AI Achieving Success?**

#### 11:20 **Is AI the “Holy Grail” of Drug Discovery?**

- Understand where AI can enhance drug discovery and where it cannot, as well as the application of machine learning to ADME/Tox - what works, what doesn't?
- A look at using AI search over novel molecular space - how this is different than virtual screening?
- Machine Learning for discovery -- only as good as the data
- Understand how to combine AI with high fidelity computational chemistry and a look at using AI to reduce computation time for quantum chemistry and FEP
- A look at why docking is of limited utility
- The use of expert systems for medicinal chemistry and synthetic chemistry

**Ed Addison**, Chairman & Chief Executive Officer, **Cloud Pharmaceuticals**

11:45 **How and Where is AI Achieving Success in Antibiotic Resistance and Microbiome Interventions?**

- Understand how AI is being used to predict antibiotic resistance alongside and in comparison, to wet-lab research
- A look at how AI is being used predict microbes that will help in metabolic syndrome
- Understand how Whole Biome is testing that hypothesis in man and is using the newly acquired data is feeding back in to improve the modeling

**Colleen Cutcliffe**, Chief Executive Officer, **Whole Biome**

12:10 **Exploring R&D Applications in Machine Learning**

- Research showcased will focus on digital and imaging clinical biomarkers
- Understand the steps to consider when beginning to kick-start machine learning research and the discussions to be had when growing these efforts

**Juergen Hammer**, Global Head, Data Science, **Roche**

12:35 **AI Application in Pharmacovigilance: Case Processing Automation**

- This presentation will focus on the descriptions of the business opportunities with AI in pharmacovigilance
- Key safety data and analytics to be showcased
- Discussion will be led around aligning human and artificial intelligence

**Juergen Schmider**, Vice President, Safety Evaluation & Reporting, **Pfizer**

1:00

**Long-Table Lunch & Networking**

2:30 **Energizer**

After a busy lunch of refueling and networking, this quick energizer will ensure that you are fully “back the room” for an afternoon of interactive learning. Prep your mind for an open and collaborative way of thinking and discussion for this part of the program.

**Deep Dive Workshops: Overcoming the Leading Challenges of AI**

2:40 These end-to-end learning experiences will allow attendees to deep dive into some of the leading challenges facing AI in pharma. Brought to life by real world examples, discuss with like-minded peers the current hurdles to overcoming these challenges. The goal of these interactive workshops will be to develop informed strategies and initiatives to overcome these challenges through collaborative thinking and idea sharing. Led by leading minds in the industry, attendees will be able to pre-register for one of the following:

<p>Workshop 1</p> <p><b>A Beginners Guide: What’s Inside the Black Box of AI?</b></p> <p>The goal of this interactive workshop is for attendees to understand the first steps to take when beginning to use AI and machine learning to improve drug discovery and development.</p> <p>Attendees will leave this workshop with:</p> <ul style="list-style-type: none"> <li>• A comprehensive understanding of what AI is and what it is not</li> <li>• Factors to consider when meeting the basic challenges when first applying AI</li> <li>• Guidance on how to build strategies around AI to fully leverage its potential</li> </ul> <p><b>Brandon Allgood</b>, Chief Technology Officer, <b>Numerate</b></p>	<p>Workshop 2</p> <p><b>Collaborating with Solution Providers</b></p> <p>This collaborative workshop will allow drug discoverers, developers and commercial leaders to discuss the factors for success when partnering and working with AI tech developers.</p> <p>Attendees will leave this workshop with:</p> <ul style="list-style-type: none"> <li>• A greater understanding of both pharma and tech developer’s role in the partnership when working with AI</li> <li>• Defined factors for success when working with AI tech developers on a long-term basis</li> <li>• Collaborative juices flowing to successfully partner with tech developers</li> </ul>	<p>Workshop 3</p> <p><b>How is AI being Successfully Harnessed in Other Industry’s?</b></p> <p>This goal of this learning-focused workshop is for attendees to understand how AI is yielding unprecedented insights in other industries and apply this to drug discovery and development.</p> <p>Attendees will leave this workshop with:</p> <ul style="list-style-type: none"> <li>• A greater understanding of how to leverage the successes AI has achieved in other industries within pharma</li> <li>• How to bring expertise from other industry’s in-house through recruitment and collaborations</li> <li>• A more holistic view of artificial intelligence and machine learning</li> </ul>
<p>3:40 <b>Afternoon Refreshments</b></p>		
<p style="text-align: center;"><b>Shaping the Future of AI in Pharma</b></p>		
<p><b>4:10 Key Learning from All Interactive Workshops</b></p> <p>Desperate to hear what was discussed in all the workshop sessions? Then fear not, as this recap session will allow all attendees to obtain the takeaways from all the interactive workshops. Led by the leaders of each workshop, this opportunity will allow attendees to fine-tune the results of the discussion and make sure no stone was left unturned.</p>		

#### 4:30 **Interactive Closing Panel and Open Q&A: Shaping the Future of AI in Pharma**

This panel session will enable attendees to shape the future success of AI in pharma and discuss lessons learnt from the summit. Capture the leaving thoughts of the summit and recap the lessons learnt with the speaker faculty and peers. Questions that will be discussed will include:

- What needs to happen now for AI to reach its full potential in pharma?
- How much do large pharma need to adapt their strategic mind-set to unlock fully embrace AI?
- How do pharma need to collaborate externally and internally to maximize efforts with AI?
- What are set to be the key breakthroughs over the next 12 months for AI?
- Which case studies and discussions have inspired us to think differently about your work with AI?

**David Christie**, Vice President, Research & Development Informatics, **Amgen**

**Martha Head**, Head, Insights from Data, **GSK**

**Ed Addison**, Co-Founder, Chairman & Chief Executive Officer, **Cloud Pharmaceuticals**

**Ansu Bagchi**, Director, Head of US Data Science & Applied Mathematics, **Merck**

#### 5:20 **Chairman's Summary**

- What has been the key lessons learnt from AI in Pharma Summit 2017?
- What are we expecting the industry to look like at the AI in Pharma Summit 2018?

#### 5:30 **Drinks Reception**

After an intense day of learning and discussions, let your hair down with your peers over drinks and canapés. Use this informal session as you like. Make some final connections, catch-up on discussions earlier in the day or converse about something completely unrelated! This will certainly be a well-earned drink or two or more...