

D4

**D4 USA DATA-
DRIVEN DRUG
DEVELOPMENT**

Cambridge, MA
15 – 17 October 2019
www.d4-pharma.com

Gather Data, Evidence and Case Studies to Transform Data-Driven Drug Development

www.d4-pharma.com

Headline Partner



Innovation Partner



Attending Organisations



D4 2019 will see the convergence of two significant groups within drug-development: those “enablers” building the systems, and those scientific leaders, or “do-ers” utilising the data-driven approaches. This year’s event features more than 30 cutting-edge case studies, each presenting evidence to help further your drug development strategy.

Why is this important?

As pharma organisations globally continue to reshape themselves into data-driven businesses, it has never been more important for the individuals within the IT/data and R&D divisions to communicate and learn from each other. With low universal pharmaceutical productivity, changes to bring significant results are needed now.

The technology is available to facilitate these developments, but without the collaboration of tech, pharma and healthcare leaders, the potential is not being fully realized. With dozens of events offering to exhibit the potential and hope of AI and ML, D4 2019 looks to move beyond that, showcasing the evidence, data and case studies stemming from the latest pioneering technologies.

Smaller is better

Veteran event-goers know that bigger doesn’t always translate to better conversations. The format of D4 is simple.

This event will bring together 150 senior-level tech and scientific leaders in a conference designed to spark collaborative relationships with peers working on the same problems as you. This is a deep-learning environment that you will leave with a renewed list of relevant contacts.



“A FABULOUS OPPORTUNITY TO UNDERSTAND WHAT OTHER PHARMA/BIOTECH COMPANIES ARE DOING TO ACCELERATE DRUG DEVELOPMENT AND CONNECT WITH LIKE-MINDED COLLEAGUES FROM A WELL-BALANCED RANGE OF INDUSTRIES.”

Bino John, Associate Director, **AstraZeneca**



“I MADE MORE NEW CONTACTS AT THE D4 CONFERENCE THAN AT ANY CONFERENCE OVER THE PAST COUPLE OF YEARS.”

Peter Henstock, Senior Data Scientist, Software Engineering, Statistics and Visualization, **Pfizer**.

Key Benefits of Attending:



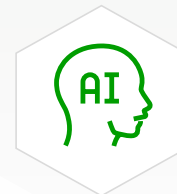
Learn and gather data -
D4 will see more than 20 case studies presented by leading pharma, biotech and academics. Understand the evidence, lessons learned and challenges being faced today in drug development.



Shape your R&D capabilities
through listening to presentations, discussion panels and innovation showcases.



Get straight to the information most relevant to you - D4’s two tracks are aimed at 1) IT/ data leaders in pharma and 2) the scientific leaders adopting these technologies.



Go beyond the hype and promises of AI and ML, and into the detail of how to build, manage and examine vast data sets



Meet and spend time with other senior-level pharma and biotech leaders from pioneering organizations

Track 1 Speakers



NURAY YURT
Head of Enterprise
Data Science
Novartis



FRANK LEE
Global Healthcare
and Life Sciences
Industry Leader
IBM Systems



LINDA MOINEAU
IT Director
**Broad Institute
and Harvard**



**ELIZABETH
GEORGE**
Director, Digital
Clinical Trials
GSK



TOM PLASTERER
Director of
Bioinformatics, Data
Science & AI, Bio
Pharmaceuticals R&D
AstraZeneca



SRIDEVI PONDURU
Associated Medical
Director
Takeda



MARK MICHALSKI
Executive Director
**MGH & BWH
Center for Clinical
Data Science**



ARMAGHAN NAIK
AVP R&D Scientific &
Digital Innovation
Sanofi



DANIELLE CIOFANI
Director of Data
Strategy and
Alliances
Broad Institute



THOMAS ABBOTT
Head, Real World
Evidence
Astellas



GERALD SUN
Senior Data Scientist
AstraZeneca



PHILIP C ROSS
Director, Head
of Translational
Bioinformatics Data
Science
**Bristol-Myers
Squibb**



BRIAN KELLEY
Principal Scientist
Relay Therapeutics



JONATHAN PRYKE
Senior Business
Relationship
Manager
AstraZeneca



PING LIU
Head of Data
Transformation;
Industrial Affairs
Sanofi



KEYNOTE SPEAKER:

PETER V HENSTOCK
Machine Learning & AI Technical
Lead: Combine AI, Software
Engineering, Statistics & Visualization
Pfizer



G. CELINE HAN
Research Investigator in
Analytics Innovation, Oncology
Translational Bioinformatics
Bristol-Myers Squibb



KEYNOTE SPEAKER:

DEBORAH MCGUINNESS
Tetherless World Constellation
Chair, Professor of Computer and
Cognitive Science, Chair, **Rensselaer
Polytechnic Institute**; University
Researcher, **DARPA**



Track 2 Speakers



JOHN QUACKENBUSH
Chair of the Biostatistics
Department
**Harvard School of
Public Health**



KEYNOTE SPEAKER:
ROB DICICCO
Deputy Chief Health
Officer
IBM Systems



MANISH MATHUR
Senior Director, Enterprise
Data Owner for Pharma
and Medical Devices
Johnson & Johnson



JENNIFER HALL
Chief, Institute for
Precision Cardiovascular
Medicine
**American Heart
Association**



SHANRONG ZHAO
Director,
Computational
Biology and
Bioinformatics
Pfizer



KEYNOTE SPEAKER:
BINO JOHN
Associate Director
AstraZeneca



ED ADDISON
CEO
Cloud Pharmaceuticals



TRICIA THORNTON-WELLS
Director, Translational Medicine
Alkermes



KEYNOTE SPEAKER:
NADEEM SARWAR
President, Center
for Genetics Guided
Dementia discovery
(G2D2)
Eisai



PHIL LANZAFAME
Director of Knowledge
Solutions
Sentara Healthcare



ALIX LACOSTE
VP of Data Science
Benevolent AI



YAN GE
Director, Data Analytics
Takeda



GEORGE LEE
Digital Pathology
Informatics Lead
Bristol-Myers Squibb



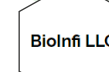
JUSTIN H. JOHNSON
Associate Director and
Principal Translational
Genomic Scientist
AstraZeneca



**VARENKA RODRIGUEZ
DIBLASI**
Senior Scientist
Boehringer Ingelheim



PANKAJ AGARWAL
Senior Fellow,
Computational Biology,
GSK (former); Principal
Computational Biologist
Biolnfi



MERA TILLEY
Translational Geneticist
Foresite Capital





Day One • October 16th

8.00 Registration And Coffee

9.00 Opening Address from the Chairperson
Thomas Abbott, Head, Real World Evidence, Astellas

9.05 **KEYNOTE:** Translating Big Data Hype to Deliver Real Patient Hope
Nadeem Sarwar, President, Center for Genetics Guided Dementia discovery (G2D2), Eisai

9.30 **KEYNOTE:** Value of Genomic Data in Discovery
Rob DiCicco, Deputy Chief Health Officer, IBM Systems

9.50 **Keynote:** The Role And Impact of AI in Drug Development
Bino John, Associate Director, AstraZeneca

10.10 **SPEED NETWORKING**
Meet other conference attendees in a fun session designed to break the ice and help you identify who you would most like to speak with later in the meeting. Bring plenty of business cards!

11.10 Morning break and coffee

TRACK ONE: ENABLING SCIENCE

Planning and executing your data-driven drug development strategy
Chaired by **Thomas Abbott**, Head, Real World Evidence, Astellas

11.30 **CASE STUDY:** Shaping Your Business Strategy with Advanced Analytics
Nuray Yurt, Executive Director, Enterprise Analytics & Data Science, Novartis

12.00 **Building and Making the Business Case for Investment and Executive Attention on Better Processes and Infrastructure**
Thomas Abbott, Head, Real World Evidence, Astellas

TRACK TWO: DOING SCIENCE

Data-powered discovery of biomarkers, drug targets and mechanisms of action
Chaired by **Tricia Thornton-Wells**, Director, Translational Medicine, Alkermes

11.30 **CASE STUDY:** Target And Biomarkers Discovery Via Transcriptome-Wide Studies of Alternative Splicing, Fueled by Advanced RNA-Sequencing Technologies and Computational Tools
Shanrong Zhao, Director, Computational Biology and Bioinformatics, Pfizer

12.00 **Personalized Medicine from an Analytics Perspective: Using Biomarker Data to Model Disease Complexity**
Tricia Thornton-Wells, Director, Translational Medicine, Alkermes

12.30 Lunch

1.30 **CASE STUDY:** Application of Advanced Analytics and Computational Platforms to Optimize Workflow
Brian Kelley, Principal Scientist, Relay Therapeutics

PREPARING FOR PRECISION MEDICINE

2.00 **Broad Institute Case Study: Keep the Scientific Ecosystem Clean from Digital Pollution**
Frank Lee, Global Healthcare and Life Sciences Industry Leader, IBM Systems
Linda Moineau, IT Director, Broad Institute

TRACK ONE: ENABLING SCIENCE

From integrative informatics for multi-omics and fair data to knowledge graphs

2.30 **Fair Data, Value to Biopharma and the Killer Use Case**
Tom Plasterer, Director of Bioinformatics, Data Science & AI, Bio Pharmaceuticals R&D, AstraZeneca

3.00 **CASE STUDY:** Integrative Informatics, Unlocking the True Potential of Multi-Omics Data to Streamline Pipeline
Jonathan Pryke, Senior Business Relationship Manager, AstraZeneca

STREAMLINING CLINICAL TRIAL WORKFLOW USING DATA

3.30 **Data Driven Digital Protocol for Clinical Trials**
Elizabeth George, Director, Digital Clinical Trials, GSK

PREDICTIVE MODELLING FOR TARGET IDENTIFICATION

1.30 **CASE STUDY:** Machine Learning for Holistic Drug Target Discovery
Alix Lacoste, VP of Data Science, Benevolent AI

2.00 **Computation-Led Drug Repurposing and Genetic Data-Driven Approaches to Guide Target Discovery**
Pankaj Agarwal, Senior Fellow, Computational Biology, GSK (former); Principal Computational Biologist, BioInfi

TRACK TWO: DOING SCIENCE

Using data lake comprised of RWD and clinical data to drive drug discovery

2.30 **CASE STUDY:** Integration and Analysis of Clinical Trial and Real-World Data (Rwd) for Drug Development: Challenges and Successes
Philip C Ross, Director, Head of Translational Bioinformatics Data Science, Bristol-Myers Squibb
G. Celine Han, Research Investigator in Analytics Innovation, Oncology Translational Bioinformatics, Bristol-Myers Squibb

INTERPRETING MULTI-OMICS DATA

3.00 **CASE STUDY:** Interpreting “Higher-Dimension” Integrated Multi-Omics Data to Drive Research Translation
John Quackenbush, Chair of the Biostatistics Department, Harvard School of Public Health

3.30 **CASE STUDY:** Computational Biology Approaches Towards Interrogating the Tumor Microenvironment
Varenka Rodriguez DiBlasi, Senior Scientist, Boehringer Ingelheim

4.00 Afternoon break and coffee

4.30 **INNOVATION SHOWCASE:**
A Solution for the “Big Data” Challenge in Biomarker-Guided Drug Development



4.40 **PANEL DISCUSSION:** “How Would You Build a Pharma Company from Scratch, Five Years From Now? What Would be the Difference, from Talent to Drug Discovery to Commercialization?”
Bertrand Bodson, Chief Digital Officer, Novartis

This panel will seek to provide enlightenment on that important question.
Chaired by **Nuray Yurt**, Executive Director, Enterprise Analytics & Data Science, Novartis
Ping Liu, Head of Data Transformation; Industrial Affairs, Sanofi
Ed Addison, CEO, Cloud Pharmaceuticals
Alix Lacoste, VP of Data Science, Benevolent AI

5.25 Chairperson’s Closing Remarks

5.30 **Networking Drinks Reception**
A chance to relax, unwind and continue chatting to other conference attendees over a glass of wine, beer or soft drink.

6.30 **Optional Dinner**
A relaxed, informal meal at a local restaurant. Sign-up on the day. The meal is not included in your ticket price.



Day Two • October 17th

8.00

Coffee

9.05

KEYNOTE ADDRESS: Case Study: Developing and Delivering Semantic Technologies to Allow Both Human and Machine to Understand Data and Produce Value

Deborah McGuinness, Tetherless World Constellation Chair, Professor of Computer and Cognitive Science, Chair, Rensselaer Polytechnic Institute; University Researcher, **DARPA**

9.35

KEYNOTE ADDRESS: Why and How Knowledge Graphs Will Transform (And Rescue) Drug Discovery

Peter V Henstock, Machine Learning & AI Technical Lead: Combine AI, Software Engineering, Statistics & Visualization, **Pfizer**

9.00 Opening Address from the Chairperson

Alix Lacoste, VP of Data Science, **Benevolent AI**

10.05 Morning break and coffee

TRACK ONE: ENABLING SCIENCE

AI & ML's current developments and their application in drug development

10.30 Infrastructure and Investment Implications of Widespread Adoption of Ai/ML-Driven Approaches. What's Required? What's New?

Danielle Ciofani, Director of Data Strategy and Alliances, **Broad Institute**

11.00 CASE STUDY: "Biological Data Representations: Formulating Your Problem to Best Leverage Machine Learning's Strengths"

Gerald Sun, Senior Data Scientist, **AstraZeneca**

11.30 CASE STUDY: Real-World Effective Application of Machine Learning Solutions in Clinical Settings to Drive Research Translation

Mark Michalski, Executive Director, **MGH & BWH Center for Clinical Data Science**

TRACK TWO: DOING SCIENCE

Optimizing clinical trial population and drug leads

Chaired by **Alix Lacoste**, VP of Data Science, **Benevolent AI**

10.30 CASE STUDY: Leveraging Integration Multi-Omics Data to Produce Biomarker Strategies to Enhance Drug Discovery and Patient Selection

Mera Tilley, Translational Geneticist, **Foresite Capital**

11.00 CASE STUDY: Discovering and Analysing Internal Data Mines to Optimise the Selection of Drug Target Site and Patient Population

Manish Mathur, Senior Director, Enterprise Data Owner for Pharma and Medical Devices, **Johnson & Johnson**

11.30 CASE STUDY: Applying Ai/ML and Analytical Approaches to Enhance Clinical Trial Success Rates

Yan Ge, Director, Data Analytics, **Takeda**

12.00 Lunch

TRACK ONE: ENABLING SCIENCE

Downstream prospects of data-centric drug development

1.00 PANEL DISCUSSION: Pharma Ecosystem Alignment in a New Data-Driven World: Speed Versus Regulation, Privacy and Consent

Sridevi Ponduru, Associated Medical Director, **Takeda**

Danielle Ciofani, Director of Data Strategy and Alliances, **Broad Institute**

Jennifer Hall, Chief, Institute for Precision Cardiovascular Medicine, **American Heart Association**

NATURAL LANGUAGE PROCESSING IN DRUG R&D

1.30 CASE STUDY: Natural Language Processing, the Latest Advances and Where do the Challenges Lie

Armaghan Naik, AVP R&D Scientific & Digital Innovation, **Sanofi**

TRACK TWO: DOING SCIENCE

1.00 CASE STUDY: Leveraging Pathology Images and Artificial Intelligence to Predict Immuno-Therapy Treatment Outcomes

George Lee, Digital Pathology Informatics Lead, **Bristol-Myers Squibb**

1.30 CASE STUDY: Application of Knowledge Graphs Built from Pharmacy Data to Contrast the Drug Effectiveness of Opioid and Opioid Alternatives in a Healthcare Delivery System

Phil Lanzafame, Director of Knowledge Solutions, **Sentara Healthcare**

2.00 Afternoon break and coffee

2.30 The Role of Consumers in Real World Data and the Future of Health Care

Jennifer Hall, Chief, Institute for Precision Cardiovascular Medicine, **American Heart Association**

3.00 PANEL DISCUSSION: The Now and Future of Drug Discovery and Development

Justin H. Johnson, Associate Director and Principal Translational Genomic Scientist, **AstraZeneca**

Deborah McGuinness, Tetherless World Constellation Chair, Professor of Computer and Cognitive Science,

Chair, **Rensselaer Polytechnic Institute**; University Researcher, **DARPA**

Philip C Ross, Director, Head of Translational Bioinformatics Data Science, **Bristol-Myers Squibb**

Phil Lanzafame, Director of Knowledge Solutions, **Sentara Healthcare**

Ashlee Hamel, System Coordinator, Pharmacy Clinical Programs, **Sentara Healthcare**

4.00 Close of Meeting / Chairperson's Closing Remarks and Close of Conference



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Throughout 2018 we chaired several Special Interest Groups in Boston and London for pharma companies, each related in some way to the topic of data-driven drug development. Following those meetings, we were asked by pharma (Novartis, Pfizer, AstraZeneca, Biogen, GSK, Regeneron, Roche and others) to put together a meeting for senior leaders in pharma, in order to help them build and make the business case for major investment in data-infrastructure, as well as implement those changes with their business.

Senior people in pharma told us:

- 1. Existing meetings do not adequately cater for senior people in pharma.** Those who are driving the change and investment in R&D IT, and those whose job it is to get results.
- 2. Those meetings focus on future possibilities (e.g. how AI will reshape drug development), but not on how current advances in data-driven approaches can create value and ROI today.** They do not recognize that the pressure on leaders within pharma to deliver today is immense, and making the wrong decision at this level can be costly.
- 3. Those meetings are extremely light on evidence and supporting data within use-cases.** A senior person from a pharma company typically counts themselves lucky if they come away from such a meeting with just 1-2 evidence-based ideas to bring into their own development programs.

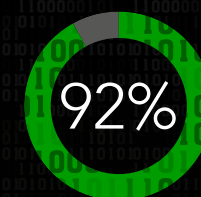
That's where D4 – USA comes in

This meeting is designed to cater for senior people in pharma, combining (1) strategic insights of value to IT/R&D leaders, with (2) technical, evidence-based use-cases and data that attendees can take away to move forwards with confidence in their own organizations.

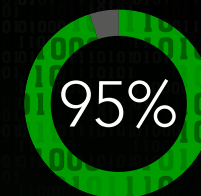


The story so far...

We ran this meeting in Boston in March, to much acclaim.



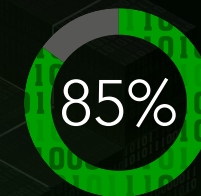
Of end-user attendees were senior.
E.g. C-level, Director, VP, Head.



Of attendees would strongly recommend this meeting to a colleague or friend in industry.



Registrants in total, exceeding our goal of 100 senior-level attendees to create the right environment for exchange of ideas and networking.



Of end-user attendees were from pharma companies. The others were mostly academia (e.g. Stanford, Harvard) or the FDA.

Attendees included senior people in IT and R&D from **AbbVie, AstraZeneca, Alexion, Biogen, Celgene, Eisai, GSK, Janssen, Merck, Pfizer, Regeneron, Roche, Sanofi, Takeda** and a host of mid-sized and emerging pharma.



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Sponsorship Packages

	Keynote Presentation	Agenda Presentation	Panel Speaking Slot	Interview	Email Blast	Post Event Report Editorial	Post Event Report Advert	Booth	Attendee List With Contact Details*	Staff Passes	Client Passes	Branding
Headline Partner \$40,000	✓		✓	✓	✓	✓	✓	✓	✓	5	5	✓
Keynote Partner \$30,000	✓			✓				✓	✓	4	4	✓
Agenda Partner (30 minute presentation) \$20,000		✓		✓				✓		3	3	✓
Agenda Partner (plenary panel) \$20,000			✓	✓				✓		3	3	✓
Agenda Partner (stream panel) \$15,000			✓					✓		2	2	✓
Tech Spotlight Partner \$10,000		✓						✓		2		✓
Innovation Partner \$10,000		✓						✓		2		✓
Exhibitor \$7,000								✓		2		✓
Networking Partner \$5,000										2		✓

For more information contact: Denvor Oorloff, Commercial Manager, T: +44 (0) 208 191 8810 E: denvor@frontlinegenomics

*where attendee has given permission