

**EXPLORE 11
BIO-IT FOCUSED
TRACKS**

**DATA PLATFORMS & STORAGE
INFRASTRUCTURE**

DATA MANAGEMENT

**DATA SCIENCE &
ANALYTICS TECHNOLOGIES**

**SOFTWARE APPLICATIONS
& SERVICES**

**CLOUD FOR AI/ML & MODERN
DATA SCIENCE**

GENERATIVE AI

**AI FOR DRUG DISCOVERY
& DEVELOPMENT**

**AI FOR ONCOLOGY, PRECISION
MEDICINE & HEALTH**

BIOINFORMATICS

**PHARMACEUTICAL R&D
INFORMATICS**

**DIGITALIZATION OF CLINICAL
DEVELOPMENT**

**Bio-IT World
VENTURE, INNOVATION &
PARTNERING CONFERENCE**

3 FULL-DAY SYMPOSIA

**KNOWLEDGE GRAPHS
DIGITAL BIOPHARMA
GENERATIVE AI TOOLS**

5 TECHNICAL WORKSHOPS

24th
ANNUAL

Bio-IT World CONFERENCE & EXPO

APRIL 2-4, 2025 | BOSTON, MA & VIRTUAL
OMNI BOSTON HOTEL AT THE SEAPORT

**Converging Science and IT
to Advance Precision
Medicine**

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Driving Research and
Innovation Together

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WEDNESDAY, APRIL 2

Symposia 8

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DIGITAL BIOPHARMA

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WEDNESDAY, APRIL 2 – FRIDAY, APRIL 4

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 DATA PLATFORMS & STORAGE INFRASTRUCTURE

 DATA MANAGEMENT

 DATA SCIENCE & ANALYTICS TECHNOLOGIES

 SOFTWARE APPLICATIONS & SERVICES

 CLOUD FOR AI/ML & MODERN DATA SCIENCE

 GENERATIVE AI

 AI FOR DRUG DISCOVERY & DEVELOPMENT

 AI FOR ONCOLOGY, PRECISION MEDICINE & HEALTH

 BIOINFORMATICS

 PHARMACEUTICAL R&D INFORMATICS

 DIGITALIZATION OF CLINICAL DEVELOPMENT

THURSDAY, APRIL 3

Bio-IT World VENTURE, INNOVATION & PARTNERING CONFERENCE 48

WELCOME

DEAR COLLEAGUE,

For more than two decades, we've set aside a few days in Boston in the spring as essential time to learn, strategize, and connect with our community. This year we are particularly excited about the conversations we will host from in April 2-4, 2025.

We'll get the latest on the spectrum of digital and data transformations, avoid the hype to assess the real influence of AI, machine learning, and IoT, and hear updates on the quest to address real-world data challenges using Open Source and FAIR data principles. We will get sneak peeks of the industry's latest new products and hear early pilot results for projects using predictive and generative AI models to accelerate discovery and development.

While we are big proponents of staying connected all year long, nothing replaces dedicated time to learn and network. We hope you'll join us for three engaging days of workshops, symposia,

conference tracks, exhibit hall of leading technology service provider offerings, and networking opportunities. This year's event promises to be as dynamic as ever, featuring our flagship tracks alongside exciting new topics that reflect the latest industry trends.

Don't miss this chance to take part in an influential gathering where science and IT converge to advance precision medicine. We look forward to seeing you in Boston!



Allison Proffitt
Editorial Director, Bio-IT World



Cindy Crowninshield
Executive Event Director
Bio-IT World Conference & Expo

EVENT AT-A-GLANCE

DAY 1 WEDNESDAY, APRIL 2: 9:00 AM-4:30 PM

SYMPOSIA

Knowledge Graphs

Digital Biopharma

Generative AI Tools

DAY 1 WEDNESDAY, APRIL 2: 9:00 AM-12:00 PM

TECHNICAL WORKSHOPS

FAIRification Lab—
Applying FAIR Principles to
Enhance Data Stewardship

Foundations of Quantum
Computing in Drug
Discovery

AI in
Antibody
Design

Making
Data
AI-Ready

Advanced Applications and
Roadmap for Quantum
Computing in Pharma

WEDNESDAY, APRIL 2: 1:15-4:15 PM

DAY 2 THURSDAY, APRIL 3: 8:00 AM-4:00 PM

INVESTOR CONFERENCE

Bio-IT World VENTURE, INNOVATION & PARTNERING

DAYS 2 AND 3 WEDNESDAY, APRIL 2 – FRIDAY, APRIL 4: 8:00 AM-4:30 PM

11 BIO-IT-FOCUSED CONFERENCE TRACKS

- Data Platforms & Storage Infrastructure
- Data Management
- Data Science & Analytics Technologies
- Software Applications & Services
- Cloud for AI/ML & Modern Data Science
- Generative AI

- AI for Drug Discovery & Development
- AI for Oncology, Precision Medicine & Health
- Bioinformatics
- Pharmaceutical R&D Informatics
- Digitalization of Clinical Development

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SPONSOR & EXHIBIT OPPORTUNITIES

SPONSORSHIP & EXHIBIT OPPORTUNITIES

CHI offers comprehensive packages that can be customized to your budget and objectives. Sponsorship allows you to achieve your goals before, during, and long after the event. Packages may include presentations, exhibit space and branding, as well as the use of delegate lists. Signing on early will maximize your exposure to qualified decision-makers and drive traffic to your website in the coming months.

PODIUM PRESENTATIONS – Available within Main Agenda!

Showcase your solutions to a guaranteed, targeted audience through a 15- or 30-minute presentation during a specific program, lunch, or a pre-conference workshop. Package includes exhibit space, onsite branding, and access to cooperative marketing efforts by CHI. Lunches are delivered to attendees who are already seated in the main session room. Presentations will sell out quickly! Sign on early to secure your talk.

INVITATION-ONLY VIP DINNER/HOSPITALITY SUITE

Select specific delegates from the pre-registration list to attend a private function at an upscale restaurant or a reception at the hotel. From extending the invitations, to venue suggestions, CHI will deliver your prospects and help you make the most of this invaluable opportunity.

ONE-TO-ONE MEETINGS

CHI will set up 6-8 in-person meetings during the conference, based on your selections from the advance registration list. Our staff will handle invites, confirmations and reminders, and walk the guest over to the meeting area. This package also includes a meeting space at the venue, complimentary main-conference registrations, branding, an 8'x10' exhibit space, and more.

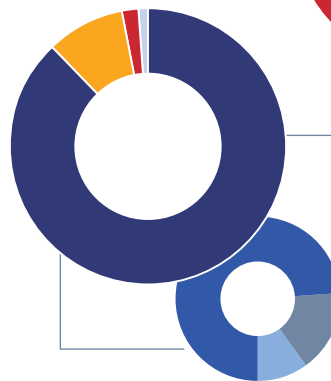
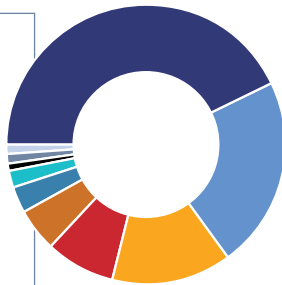
Additional branding and promotional opportunities are available, including:

- » Conference Tote Bags
- » Literature Distribution (Tote Bag Insert or Chair Drop)
- » Notebooks
- » Water Bottles
- » Graphics on elevator doors, columns, and glass railings
- » Refreshment breaks and receptions

2024 ATTENDEE DEMOGRAPHICS

COMPANY TYPE

Biotech	43%
Services	22%
Pharma	14%
Healthcare	8%
Academic	5%
Financial	3%
Societies	2%
Government	1%
Press	1%
CRO	1%



GEOGRAPHIC LOCATION

USA	88%
Europe	9%
Asia	2%
Rest of World	1%

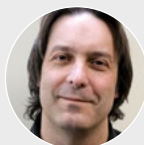
US BREAKDOWN

East Coast	74%
West Coast	16%
Midwest	10%

DELEGATE TITLE

Executive	22%
Director	20%
Manager	10%
Professor	1%
Scientist/Technologist	23%
Sales & Marketing	21%
Assistant	2%

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PLENARY KEYNOTE PROGRAM



James J. Collins, PhD
Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology



Sofia Guerra
Vice President, Bessemer Venture Partners



Allison Proffitt
Editorial Director, Bio-IT World



Robert C. Green, MD, MPH
Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School



Justin M. Scheer, PhD
Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine



Subha Madhavan
Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.



Alex Zhavoronkov, PhD
Founder & CEO, Insilico Medicine

WEDNESDAY, APRIL 2 | 4:40-6:10 PM

4:40 pm Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 pm Plenary Keynote Introduction



4:55 pm PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare

Sofia Guerra, Vice President, Bessemer Venture Partners
Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

Generative AI has the potential to transform life sciences and deliver unprecedented insights, automation, and efficiency. But is it? This keynote panel brings together leaders from biopharma, healthcare, and emerging tech who are leveraging AI to advance drug discovery, diagnostics, and patient care. Panelists will share their own case studies and real-world applications and discuss how they've tackled challenges—both technical and cultural. Look beyond the hype curve to see how this technology is really being used now and where the next opportunities lie.

THURSDAY, APRIL 3 | 8:00-9:30 AM

8:00 am Organizer's Remarks

Allison Proffitt, Editorial Director, Bio-IT World

8:05 am Plenary Keynote Introduction



8:15 am PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

This presentation delves into how advanced deep learning models analyze vast molecular libraries to identify potential antibiotic compounds with remarkable speed and precision. Highlighting recent breakthroughs and real-world applications, Dr. Collins will discuss AI's transformative potential to address antibiotic resistance and open new pathways for therapeutics.

8:45 am KEYNOTE PLENARY PRESENTATION: Generative AI, Aging Research and Robotics as a Platform for Drug Discovery: From Hype to Clinical Efficacy

Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

FRIDAY, APRIL 4 | 8:00-9:45 AM

8:00 am Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

8:05 Innovative Practices Awards: Excellence in Technological Innovation

Allison Proffitt, Editorial Director, Bio-IT World

The Innovative Practices Awards recognizes and celebrates technology innovation in the life sciences. Bio-IT World is currently accepting entries for the 2025 Innovative Practices Awards, a competition designed to recognize partnerships and projects pushing our industry forward. Winners will be announced in mid-March 2025, recognized during the Friday, April 4 Plenary Keynote Program, and scheduled to give a podium presentation about their project during the conference. For more details about the Awards and to submit an application, visit www.bioitworldexpo.com/innovativepractices.

8:20 am Plenary Keynote Introduction



8:30 am PLENARY KEYNOTE PRESENTATION: Scaling Genomic Medicine: Transforming Newborn Screening through Informatics and Innovation

Robert C. Green, MD, MPH, Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School

The BabySeq Project has pioneered the integration of genomic sequencing into newborn

and childhood screening, uncovering unexpected risk variants and transforming healthcare delivery. This keynote explores the groundbreaking progress in genomic medicine, featuring real-world stories of families impacted by these discoveries. Learn about the informatics challenges and innovative solutions required to scale genomic screening for national and global implementation, reshaping the future of precision medicine.

9:00 am PLENARY KEYNOTE PRESENTATION: Unlocking the Power of Machine Learning and Data-at-Scale to Deliver with Speed the Best Therapeutic Candidates

Justin M. Scheer, PhD, Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine

The challenges of high costs, lengthy timelines, and significant attrition have prompted our industry to integrate AI/ML into all aspects of the business. This presentation highlights J&J's strategic investments in AI/ML technologies to enhance the drug discovery processes, including molecule design and optimization. By investing in these technologies with a modality agnostic approach, J&J aims to tackle the hardest targets in drug discovery, ultimately increasing the success rate of delivering better molecules faster.

9:30 am Session Q&A

"It was an amazing fusion of innovation, R&D, drug discovery and pureplay technology that came to the table so it was actually a feast!"

Nimita Limaye, Research VP, Life Sciences R&D Strategy and Technology, IDC

2025 AWARDS PROGRAMS

Bio-IT World Innovative Practices Awards



Recognizing and Celebrating Innovation in the Life Sciences

Bio-IT World is accepting entries for the 2025 Innovative Practices Awards, a competition designed to recognize the most exciting partnerships and projects pushing the life sciences industry forward. The deadline for entry is January 31, 2025, and the \$300 application fee will be waived for entrants who meet the early submission deadline of **December 31, 2024**.

For more than two decades, the Innovative Practices Awards have highlighted strategies that can be widely shared and implemented across the industry to improve science quality, pace, and reach. Judged by an independent panel of industry experts, the awards honor the ideas that are accelerating life sciences advancements. This year, winners will be announced in mid-March and will be invited to accept their awards during the Friday, April 4 plenary session Bio-IT World Conference & Expo as well as present their winning entries in a special, Innovative Practices Award Winners session in Boston later that morning. For more information on the program and to download the entry form, please visit Bio-ITWorldExpo.com/InnovativePractices

Bio-IT World 2025 Best of Show Awards



Recognizing Exceptional Innovation in Technologies Used by Life Sciences Professionals

The Best of Show Awards offer exhibitors of the Bio-IT World Conference & Expo an exclusive opportunity to distinguish and highlight their products, whether an innovative application, technology, tool, or solution. The Bio-IT

World community is invited to identify exceptional innovation in technologies used by life science professionals, voting on the most impactful new products of the year.

We look forward to continuing this tradition. Exhibitors are invited to enter their products via the online submission form below. Attendees are encouraged to explore the novel technologies and solutions firsthand in the exhibit hall and vote for the People's Choice Award once the conference has begun. Please note, selection is not based upon level of sponsorship or exhibit participation.

Please visit: Bio-ITWorldExpo.com/Best-of-Show-Awards

"Our Bio-IT community consistently pushes the envelope, sharing new innovations, ideas, and best practices to the industry year after year. Every year I look forward to sharing the best of the best with the audience."

- ALLISON PROFFITT, EDITORIAL DIRECTOR, BIO-IT WORLD

Join the Community

Driving Research and Innovation Together



Grow Your Network

In addition to many informal opportunities to collaborate, share insights, build networks and solve shared challenges, Bio-IT World has designed a dynamic program and invested in innovative technology to ensure attendees can connect with fellow participants.

NETWORK onsite during the Welcome Reception, Networking Breakfast, Refreshment Breaks, Luncheon, and Closing Reception.

CONTINUE your discussions during our Breakout Sessions.

ENGAGE with our industry-leading sponsors.

TAKE PART in live Q&A with speakers and participants following each presentation.

PARTICIPATE in 1-on-1 networking with an easy-to-navigate profile search, filter, and scheduling platform.

IDENTIFY and establish meetings with participants who have similar initiatives and challenges within minutes.

Learn more by visiting Bio-ITWorldExpo.com/Networking

**TUESDAY, APRIL 1**

5:00 pm Registration Open

WEDNESDAY, APRIL 2

8:00 am Registration and Morning Coffee

9:00 Organizer's Remarks

BUILDING AND LEVERAGING FOUNDATIONAL KNOWLEDGE GRAPHS FOR BIOMEDICAL RESEARCH

9:05 Chairperson's Remarks

Janice McCallum, Managing Director, Health Content Advisors

9:10 Human Reference Atlas Knowledge Graph: Construction and Applications

Katy Börner, PhD, Victor H. Yngve Distinguished Professor of Engineering and Information Science, Intelligent Systems Engineering, Indiana University

Experts from 20 consortia are developing the Human Reference Atlas (HRA) to map the 37 trillion cells of the healthy human body. With over 6 million nodes and 57 million edges, the HRA Knowledge Graph enables advanced data queries through platforms like the HuBMAP portal and HRA Organ Gallery. This presentation highlights how data from HuBMAP, SenNet, and GTEx are integrated into the HRA, advancing precision health and medicine.

9:35 A Graph Database with Billions of Nodes and Edges Linking Mouse and Human Genetics

Matthew Gerring, MEng, Senior Manager, Computational Sciences, The Jackson Laboratory

Over the last three years we have been working on a vast array of data and linking it into a graph database. Using techniques including streaming, intermediate SQL databases and bulk import we have built a database which links mouse and human genes and can be used in a wide range of scientific research. This talk will detail how we did that computationally and show how to use the database.

10:00 Advancing Medical QA: A Knowledge Graph Agent for Complex, Multi-Strategy Reasoning

Xiaorui Su, PhD, Harvard Medical School

Medical reasoning presents unique challenges that require integrating multi-source, grounded, and specialized domain knowledge. In this work, we introduced KGAREvion, a KG-based LLM agent that addresses these challenges by combining the non-codified knowledge of LLMs with the structured, codified knowledge of medical concepts stored in KGs. Through its adaptive reasoning and mechanisms for generating, verifying, and revising knowledge, KGAREvion can handle complex medical QA, and ensure contextual relevance and reliability.

10:25 Presentation to be Announced

10:55 Networking Coffee Break

11:15 SAGE: Scientific Discovery through AI-Infused Knowledge Graphs to Enrich Disease Understanding

Miguel R. Goncalves, PhD, Associate Director, Oncology R&D, AstraZeneca

Attendees will learn how SAGE, an AI-infused knowledge graph platform, facilitates scientific discovery by integrating multiomics and clinical data for disease understanding. The session will demonstrate how users can access insights through a chatbot without hallucination risks, empowering both technical and non-technical users to quickly generate cohorts, retrieve statistics, and streamline decision-making in life sciences research, with applications that can be replicated across the industry.

11:40 Presentation to be Announced

12:05 pm Transition to Lunch

12:15 LUNCHEON PRESENTATION: Harnessing AI to Identify Causal Relationships and Enhance Research and Scientific Validation in Pharma

*Peter Doerr, Director, Presales, metaphacts*

This talk discusses how AI methods can help find gaps between curated knowledge in knowledge graphs and unstructured knowledge in scientific texts. We provide examples of how databases like OpenTargets can be enriched by using AI to identify causal relationships in scientific documents. With Knowledge Graph technology, these relationships are used to augment existing databases, allowing users to compare, spot gaps and, crucially, find the relevant literature to ensure scientific validation.

12:45 Luncheon Presentation (*Sponsorship Opportunity Available*) or Enjoy Lunch on Your Own

1:15 Session Break

ADVANCING BIOMEDICAL INSIGHTS: KNOWLEDGE GRAPHS, AI/ML, AND GENERATIVE FRAMEWORKS IN RESEARCH AND DRUG DISCOVERY

1:30 Chairperson's Remarks

Janice McCallum, Managing Director, Health Content Advisors

1:35 Knowledge Graphs: Bridging the Clinic and Drug Discovery

Michael Liebman, PhD, Managing Director, IPQ Analytics, LLC

An accurate understanding of disease is the cornerstone of bridging the clinic and drug discovery. This requires accounting for the real-world complexities of patients, diseases, and clinical practice. This presentation highlights a unique application of knowledge graphs to uncover critical gaps and resolve conflicts in data. Focused on women's health, it explores the interaction between physiologic development, disease risk, and clinical presentation to advance therapeutic discovery.

2:00 Integrating AI/ML Solutions with Cutting-Edge Biology to Identify New Condensate Targets and Revolutionary Medicine

Avinash Patel, PhD, Senior Director, Head Exploratory Sciences, Dewpoint Therapeutics GmbH

Biomolecular condensates regulate key biological processes, and their dysfunction, or condensatopathies, drives disease. These are novel therapeutic targets for drug discovery. Dewpoint's AI-powered platform uses graph-based target identification, multi-omics data, and deep learning models to optimize condensate-modifying drugs (c-mods). This approach prioritizes c-mods for diseases like colorectal cancer, addressing key dysfunctions. Dewpoint's platform supports oncology and neurodegeneration programs, developing innovative small-molecule therapies for high unmet needs.

2:25 Integrating LLMs, Ontologies, and Graph Structures: A Unified Framework for Advanced Data Insights

Ray Lukas, Principal Emerging Technologies Engineer, The MITRE Corporation, MITRE Labs

This talk introduces a cutting-edge framework that integrates large language models (LLMs), ontologies, and graph structures to unify disparate datasets for biomedical research. This unified platform enhances the ability to derive advanced insights through natural language queries, removing the need for expertise in native query languages. Positioned as a bridge between foundational graph technologies and generative AI, this framework offers transformative potential for life sciences applications, accelerating discovery and innovation.

2:50 Networking Refreshment Break

3:10 Sponsored Presentation (*Opportunity Available*)



3:40 Pre-Introducing Knowledge Graphs and Large Language Models: Dangerous Predictions about the Next Token

Ben Busby, PhD, Director, Solution Science, DNAnexus, Inc.
Helena Deus, PhD, Lead for Semantic Data Products, Bristol Myers Squibb Co.
Brian Martin, Chief AI Product Owner, BTS; Head of AI, R&D Information Research; Senior Research Fellow, AbbVie, Inc.
Tom Plasterer, PhD, Managing Director, Life Sciences Innovation, ExponentL Data

Explore the dynamic intersection of knowledge graphs and large language models in this forward-looking session. This talk delves into the emerging possibilities and risks as semantic data integrates with generative AI, offering 'dangerous predictions' about the next token. Join us to examine how these technologies could reshape scientific discovery, data interpretation, and innovation across life sciences and beyond.

4:30 Refreshment Break & Transition to Plenary Keynote



4:40 Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners
Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

Generative AI has the potential to transform life sciences and deliver unprecedented insights, automation, and efficiency. But is it? This panel brings leaders from biopharma, healthcare, and emerging tech who are leveraging AI to advance drug discovery, diagnostics, and patient care. Panelists will present case studies, sharing real-world applications and how they've navigated technical and cultural challenges. Look beyond the hype to discover the technology's current impact and future opportunities.

6:10 Welcome Reception in the Exhibit Hall with Poster Viewing **Benchling Viewing** (Sponsorship Opportunity Available)

The Bio-IT Kickoff Reception is a reunion—reconnect with friends, explore cutting-edge research, and celebrate innovation! Enjoy poster presentations, networking, and vote for the Best of Show and Poster awards.

7:25 Close of Day

“ It was an amazing fusion of innovation, R&D, drug discovery and pureplay technology that came to the table so it was actually a feast! ”

NIMITA LIMAYE, RESEARCH VP, LIFE SCIENCES R&D STRATEGY AND TECHNOLOGY, IDC

**TUESDAY, APRIL 1**

5:00 pm Registration Open

WEDNESDAY, APRIL 2

8:00 am Registration and Morning Coffee

9:00 Organizer's Remarks

IT ENVIRONMENTS AND WORKFLOW MODERNIZATION**9:05 Advancing RNA R&D: Leveraging Automation, AI/ML, and Modern Data Management***Sebastian Schlicker, Head, Biologics Business Operations, Genedata AG***9:10 Putting the IT in New Modalities at AstraZeneca***Y. Morris Chen, PhD, Target Identification Capability Lead, R&D IT, AstraZeneca*

The speaker will discuss how AstraZeneca R&D IT addresses the rapid evolution and challenges of cell therapy research and development, including key considerations and short-term and long-term strategic foci.

9:35 Harnessing Data Management and Querying for Advancements in AAV Research and *in vivo* Studies*Shijun Yu, Senior Scientist, Roche*

Adeno-Associated Virus (AAV) data, including properties, genealogy, and assay results, are integrated into our biological data warehouse and D360 platform. This improves AAV research accuracy and efficiency, accelerating cell and gene therapy advancements. Additionally, the *in vivo* studies complement the existing *in vitro* data in D360, as well as integrating with various data sources across modalities, largely facilitating the decision-making for the drug discovery in Roche Pharma R&D.

10:00 Launching into the Future: Sanofi's Biologics AI Moonshot Program—Advancing AI Strategy and Innovation for Biologics*Yves Fomekong Nanfack, PhD, Executive Director, Head of End to End AI Foundations, Large Molecules Research, Sanofi*

Sanofi recently launched the BioAIM program to push forward on our ambition to transform biologics drug discovery. This talk will discuss the landscape of opportunities for ML and AI in all aspects of antibody generation to design and engineering of advanced modalities, our approach, examples of novel methods developed, and early results.

10:25 Sponsored Presentation (Opportunity Available)**10:55 Networking Coffee Break****11:15 Exploring Cutting-Edge AI and Machine Learning Innovations in Biologics Drug Discovery***Monica Wang, PhD, Head of Biologics and Novel Modality Discovery Capabilities and Products, Scientific Informatics, Takeda*

Understand how computational methods can utilize large and varied datasets to make *in silico* predictions for optimal design and enhancement of biologics. Learn how recent progress in AI and machine learning has enhanced the ability to mine data for insights related to biologics drug discovery. Explore the opportunities and challenges presented by deep learning techniques in the design and optimization of innovative biologics therapeutics.

11:40 Empower Gilead Biologics Innovation with AI/ML through Informatics Ecosystem Transformation*Epic Ding, Senior Manager, Research Informatics, Gilead**Ying Huang, Director of Data Science, Gilead*

Gilead Research Informatics and Research Data Science have been partnering with PTx to revolutionize the large molecule informatics ecosystem which is built on top of existing data infrastructure. Vendor systems and internally developed applications are integrated as a cohesive, scalable ecosystem to support the next decade's biologics innovation. We will highlight AI/ML

applications that leverage data integration and transformation to accelerate candidate selection and facilitate molecule engineering.

12:05 pm Transition to Lunch**12:15 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own****1:15 Session Break****NEW FRAMEWORKS AND TECHNOLOGIES ADVANCING BIOLOGICS DISCOVERY****1:30 Chairperson's Remarks***Sebastian Schlicker, Head, Biologics Business Operations, Genedata AG***1:35 Building Cell Therapy Multi-Modal Molecular Imaging Ecosystem***Jenny Wei, PhD, Senior Director, R&D Informatics and Technology, Kite Pharma*

As Kite Pharma advances cell therapy to solid tumors and autoimmune diseases, advanced imaging technologies are invested in CAR T discovery. Kite Pharma is collaborating with NVIDIA and Deloitte to explore accelerated streaming of multi-terabyte images to cloud with optimized storage, automated cell segmentation analysis on MONAI with foundation models, integration within image modalities and among diverse modalities (clinical, genomics, and imaging), and GenAI-augmented image meta-data indexing and exploration.

2:00 Med.ai-CAR T: An Integrated CAR T Data and Analytic Platform for R&D*Lina Yang, PhD, Senior Scientist, Data Science and Digital Health, Johnson & Johnson Innovative Medicine*

As an R&D organization, Johnson & Johnson Innovative Medicine Data Science & Digital Health is collaborating with the oncology teams to develop an integrated solution for advanced analysis across modalities and scales in CAR T research. Access to multimodality data will enable the utilization of advanced AI/ML technology to enhance our understanding of manufacturability, efficacy, and safety in cell therapy products.

2:25 From Request to Results: Automating Lab Workflows with Predictive Resource Scheduling*Luis Lebolo, PhD, Director of Software Engineering, Generate Biomedicines*

Discover how we transformed lab operations by developing an in-house workflow management and predictive scheduling system. Our solution automates the end-to-end process from request to results, integrating tightly with our data platform, informatics tools, and automation. By tracking progress, supporting task handoffs, and optimizing resource allocation, we enhanced efficiency and visibility across the lab. Learn how predictive resource scheduling answers critical questions about timing and workload management.

2:50 Networking Refreshment Break**3:10 Talk Title to be Announced***Tamerlan Saidov, Digital Strategy Consultant, Zifo Technologies, Inc.***3:25 Sponsored Presentation (Opportunity Available)****3:40 Digital in Biotherapeutics at AbbVie: A Ten-Year Retrospective Shaping Our Future Vision***Sukru Kaymakcalan, Director, R&D Information Research, AbbVie, Inc.*

Digital transformation, rapid scientific and technological advancements, and advanced analytics are reshaping digital solutions in biotherapeutics R&D. We'll review AbbVie's efforts over the past decade to share insights, identify challenges and opportunities, and present our vision for a data-driven, digitally enabled biotherapeutics organization ready to tackle tomorrow's biopharma challenges.





4:05 Digital Infrastructure for Decentralized R&D in the Life Sciences

Charles Demurjian, Lead Data Specialist, BioMicro Center at MIT

Douaa Mugahid, Data Officer, Immunology & Infectious Diseases, Harvard Medical School

The explosion of multiomics in the life sciences is catalyzing a shift towards digital biology at unprecedented speed. In the world of digital biology, not only do we need interdisciplinary research teams of wet and dry lab researchers working closely together, but also the infrastructure to support their collaboration. This session will discuss efforts being made to support decentralized digital biology inspired by learnings from the international NIH-funded consortium, Hi-IMPACTB.

4:30 Refreshment Break & Transition to Plenary Keynote



4:40 Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners

Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

Generative AI has the potential to transform life sciences and deliver unprecedented insights, automation, and efficiency. But is it? This panel brings leaders from biopharma, healthcare, and emerging tech who are leveraging AI to advance drug discovery, diagnostics, and patient care. Panelists will present case studies, sharing real-world applications and how they've navigated technical and cultural challenges. Look beyond the hype to discover the technology's current impact and future opportunities.

6:10 Welcome Reception in the Exhibit Hall with Poster Viewing **Benchling** *(Sponsorship Opportunity Available)*

The Bio-IT Kickoff Reception is a reunion—reconnect with friends, explore cutting-edge research, and celebrate innovation! Enjoy poster presentations, networking, and vote for the Best of Show and Poster awards.

7:25 Close of Day

**TUESDAY, APRIL 1**

5:00 pm Registration Open

WEDNESDAY, APRIL 2

8:00 am Registration and Morning Coffee

9:00 Organizer's Remarks

INNOVATIVE APPLICATIONS AND STRATEGIC IMPLEMENTATION OF GENERATIVE AI IN SCIENTIFIC RESEARCH

9:05 Chairperson's Remarks

9:10 Genie's Toolbox: Mastering the Secret Sauce of GenAI Tool Selection

Vinod Das, Associate Director, Bayer Pharmaceuticals

Maximize ROI and accelerate time-to-market by choosing the right Generative AI tools. This session offers a versatile evaluation formula for professionals, especially in pharma, to navigate complexities. We'll cover key factors like data compatibility, human-AI interaction, regulatory compliance, ROI, and technical debt mitigation. Join me to create a practical roadmap for GenAI tool selection and unlock unparalleled efficiency and success.

9:35 How Generative AI is Transforming Digital Healthcare

Vishakha Sharma, PhD, Principal Data Scientist, Roche Molecular Systems Inc.

This talk explores how healthcare-specific Large Language Models (LLMs) elevate drug discovery by creating detailed oncology patient timelines from Electronic Health Records (EHRs). Using LLMs, we synthesize chemotherapy treatment data across diverse clinical documents—primary care, oncology notes, discharge summaries, emergency records, and pathology/radiology reports. These timelines reveal treatment patterns, response rates, and progression insights, offering a comprehensive, longitudinal view that enhances drug discovery and development.

10:00 Generative AI for Scalable Dynamic Models in Precision Medicine

Iman Tavassoly, MD, PhD, Founder and CEO, QMed

This talk will highlight how generative AI can create dynamic and mathematical models for precision medicine, enabling the simulation of patient-specific responses. We will explore a platform that generates and scales these models efficiently, optimizing therapeutic predictions. The application of these AI-driven models promises to transform precision and quantitative medicine, improving personalized treatment and clinical decision-making.

10:25 Sponsored Presentation (Opportunity Available)

10:55 Networking Coffee Break

11:15 Transforming Scientific Discovery with AI/ML and the Globus Platform

Rachana Ananthkrishnan, Executive Director, University of Chicago

Modern scientific instruments generate vast data volumes that surpass local processing limits. Leveraging AI/ML with the Globus platform, researchers can intelligently analyze targeted data subsets or guide instruments to critical experimental areas. This talk explores how Globus supports distributed data management and computing, enabling efficient analysis and self-driven experiments. Examples include applications in antimicrobial peptide identification, x-ray ptychography, and small molecule screening, showcasing Globus's transformative impact on life sciences research.

11:40 Presentation to be Announced

12:05 pm Transition to Lunch

12:15 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

1:15 Session Break

TRANSFORMING DRUG DISCOVERY AND MOLECULAR INNOVATION THROUGH GENERATIVE AI

1:30 Chairperson's Remarks

1:35 A Primer on Hugging Face Tools, Large Language Models, and Generative AI for Biomedical Research

Parthiban Srinivasan, PhD, Professor and Director, Centre for AI in Medicine, Vinayaka Mission's Research Foundation, India

This primer introduces biomedical researchers to Hugging Face tools, Large Language Models (LLMs), and Generative AI. It covers the basics of LLMs, their architecture, and applications in areas such as data extraction, literature analysis, and predictive modeling. Attendees will learn practical techniques like prompt engineering, model fine-tuning, and retrieval-augmented generation (RAG). The talk provides hands-on insights into leveraging Hugging Face's tools for applying generative AI to transform biomedical research workflows.

2:00 Unlock the Potential of Data: Leveraging LLMs and Generative AI for Breakthroughs in Drug Discovery and Predictive Molecular Innovation

*Bharti Gajera, Associate Director, IT Business Partner, Biologics & I/O Discovery, Bristol Myers Squibb Co.**Haribabu Muppanani, Technical Domain Architect, Bristol Myers Squibb Co.*

This presentation explores how large language models (LLMs) and Generative AI (GenAI) can revolutionize drug discovery and predictive molecular inventions by harnessing vast datasets across organizations. We will demonstrate practical strategies for applying these cutting-edge technologies, from start-ups to large pharmaceutical companies, showcasing their potential to streamline data discovery and scale innovative solutions.

2:25 Presentation to be Announced

2:50 Networking Refreshment Break

3:10 Sponsored Presentation (Opportunity Available)

3:40 Pre-Introducing Knowledge Graphs and Large Language Models: Dangerous Predictions about the Next Token

*Ben Busby, PhD, Director, Solution Science, DNAnexus, Inc.**Helena Deus, PhD, Lead for Semantic Data Products, Bristol Myers Squibb Co.**Brian Martin, Chief AI Product Owner, BTS; Head of AI, R&D Information Research; Senior Research Fellow, AbbVie, Inc.**Tom Plasterer, PhD, Managing Director, Life Sciences Innovation, ExponentL Data*

Explore the dynamic intersection of knowledge graphs and large language models in this forward-looking session. This talk delves into the emerging possibilities and risks as semantic data integrates with generative AI, offering 'dangerous predictions' about the next token. Join us to examine how these technologies could reshape scientific discovery, data interpretation, and innovation across life sciences and beyond.

4:30 Refreshment Break & Transition to Plenary Keynote



**4:40 Organizer's Remarks**

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced**4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare**

Sofia Guerra, Vice President, Bessemer Venture Partners

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6:10 Welcome Reception in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

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7:25 Close of Day

WORKSHOPS*

WEDNESDAY, APRIL 2 9:00 AM-12:00 PM

W1: FAIRification Lab—Applying FAIR Principles to Enhance Data Stewardship

Instructors:

Munazah Andrabi, PhD, Data & Community Manager, The University of Manchester

Ishwar Chandramouliswaran, Program Director, Office of Data Science Strategy, NIH

Andrew Hasley, PhD, Program Analyst, Office of Data Science Strategy, NIH

Nick Juty, PhD, Senior Research Technology Manager, eScience Lab, University of Manchester

Nick Lynch, PhD, Founder & CTO, Curlew Research; Member, FAIRplus Consortium

Giovanni Nisato, PhD, Consultant, Project Manager FAIR implementation, Pistoia Alliance

Philippe Rocca-Serra, PhD, Senior Director FAIR Collaborations R&D, AstraZeneca, Cambridge UK; Associate Member of Faculty, Oxford e-Research Centre, University of Oxford

Susanna-Assunta Sansone, PhD, Professor of Data Readiness, Department of Engineering Science; Academic Lead for Research Practice, University of Oxford

This hands-on workshop provides an interactive exploration of the FAIR (Findable, Accessible, Interoperable, and Reusable) data landscape, with a focus on real-world applications. During the session, three expert speakers from prominent data stewardship projects will share their experiences and insights into how FAIR principles are being applied. Following the presentations, attendees will break into small groups for a practical “FAIRification” exercise, working with provided datasets to apply FAIR principles and gain a deeper understanding of the process.

W2: Foundations of Quantum Computing in Drug Discovery

Instructor:

Sara Dolcetti, Vice President of Business Development, Qubit Pharmaceuticals

Quantum computing is poised to revolutionize drug discovery by accelerating computations and unlocking new possibilities for pharmaceutical innovation. In this workshop, participants will gain a foundational understanding of quantum computing principles and explore its transformative potential for solving complex challenges in drug discovery. Industry leaders will share early-stage case studies showcasing how quantum computing is being applied today, providing attendees with the knowledge to engage with this rapidly evolving field.

WEDNESDAY, APRIL 2 1:15-4:15 PM

W4: Making Data AI-Ready

Instructors:

Anastasios Moresis, PhD, Senior Scientist, Roche Pharma

Fernanda Foertter, MSc, Oakridge National Lab

Angelika Fuchs, Chapter Lead Data Products and Platforms, pRED Data & Analytics, Roche Diagnostics GmbH

Ryan Chandler, PhD, Knowledge Graph Engineer, Research and Development, AbbVie

AI-driven analyses depend on high-quality, accessible data for accurate modeling and decision-making. This workshop digs into strategies and frameworks to ensure that AI models perform reliably, ethically, and within regulatory bounds, while maximizing data’s potential to deliver actionable insights and accelerate pharma R&D.

W5: Advanced Applications and Roadmap for Quantum Computing in Pharma

Instructor:

Sara Dolcetti, Vice President of Business Development, Qubit Pharmaceuticals

Building on the foundational concepts introduced in the morning workshop, this advanced workshop explores real-world case studies from industry leaders in hardware innovation, pharma quantum teams, and virtual drug discovery. Attendees will delve deeper into breakthrough applications and learn how to overcome current challenges in adopting quantum technologies. The session concludes with an interactive roundtable discussion on the future roadmap, offering participants an opportunity to collaborate on shaping the next generation of quantum-driven drug development.

W6: AI in Antibody Design

Instructors:

Rahmad Akbar, PhD, Senior Data Scientist, Antibody Design, Novo Nordisk

Magnus Haraldson Hoie, Visiting Scientist, Antibody Design, Novo Nordisk

Artificial intelligence is a promising tool for tackling challenging drug targets. This workshop will discuss AI’s role in accelerating the discovery and design process, including data integration, data generation, predictive algorithms, and applications.



Additional Workshops
COMING SOON!



DATA PLATFORMS & STORAGE INFRASTRUCTURE

Optimize Data Storage Solutions for Peak Speed, Performance, and Cost Efficiency

WEDNESDAY, APRIL 2

8:00 am Registration Open

9:00 Recommended Pre-Conference Workshops and Symposia*

On Wednesday, April 2, 2025, Cambridge Healthtech Institute is pleased to offer five pre-conference Workshops scheduled across two time slots (9:00 am–12:00 pm and 1:15–4:15 pm) and three Symposia from 9:00 am–4:20 pm. All are designed to be instructional, interactive, and provide in-depth information on a specific topic. They allow for one-on-one interaction and provide a great way to explain more technical aspects that would otherwise not be covered during the main conference tracks that take place Thursday–Friday.

*Separate registration required. See details on the Symposia here and details on the Workshops here.

4:40 Organizer's Remarks



Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners
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6:10 Welcome Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)



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7:25 Close of Day

THURSDAY, APRIL 3

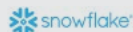
7:00 am Registration Open

8:00 Organizer's Remarks



Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

8:05 Presentation to be Announced



AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

This presentation delves into how advanced deep learning models analyze vast molecular libraries to identify potential antibiotic compounds with remarkable speed and precision. Highlighting recent breakthroughs and real-world applications, Dr. Collins will discuss AI's transformative potential to address antibiotic resistance and open new pathways for therapeutics.



8:45 PLENARY KEYNOTE PRESENTATION: Generative AI, Aging Research and Robotics as a Platform for Drug Discovery: From Hype to Clinical Efficacy

Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

9:15 Session Q&A

9:30 Coffee Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

Start your morning with coffee, connections, and cutting-edge research! Enjoy poster presentations, network in the Exhibit Hall, vote for awards, and a chance at a fabulous raffle prize!

10:15 Organizer's Welcome Remarks

FOUNDATIONS OF MODERN DATA PLATFORMS

10:20 Chairperson's Remarks (Sponsorship Opportunity Available)

10:25 Building a Unified Analytics Ecosystem: From Concept to Reality

Anand Ganesan, Product Lead, GD-IT, Regeneron Pharmaceuticals, Inc.
Sriram Krishnamurthy, Associate Director, Global Development Solutions, Regeneron Pharmaceuticals, Inc.

We will present our journey in unifying disparate analytics environments, including SAS, open-source platforms, and Lakehouse platforms like Databricks. Our evolution from a SAS-centric setup to a multi-platform, multi-language environment incorporating Python and R will be discussed. We will outline our strategy for creating a unified, connected ecosystem that empowers business users to choose their preferred platform and collaborate seamlessly across different environments.

10:55 Aligning Culture, Data Architecture, and Process to Build a Field-Leading Lab-in-the-Loop Data Platform for ML-Guided Design

Stephen Northup, Senior Software Engineer, Dyno Therapeutics

To empower ML innovation, companies require a 'lab in the loop,' where data and insights can flow freely across team and departmental boundaries. This talk will equip engineering leaders to understand strategic trade-offs as well as practical on-the-ground tactical decisions based on hard-learned lessons from getting a startup off the ground to establishing it as a leader in ML-guided design.

11:25 Data and Computing Infrastructure for the Life Sciences: Best Practices, Observations, and Lessons Learned

Chris Dwan, Independent Consultant, Dwan, LLC

This talk will provide practical, real-world advice based on Dwan's quarter century of experience designing and implementing high-performance computing and large-scale data systems for health care and the life sciences. Topics will include network architectures, cloud vs. "terrestrial" infrastructure,



DATA PLATFORMS & STORAGE INFRASTRUCTURE

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practical data strategies, information security, quality and compliance from R&D to the clinic, differentiated computing platforms, human and organizational factors, and of course, AI.

11:55 Presentation to be Announced

12:10 pm Presentation to be Announced (Sponsorship Opportunity Available) **Quantum.**

12:55 Session Break and Transition to Lunch

1:05 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

Bio-IT's hall is bigger than ever—one break won't cut it! Enjoy dessert and coffee after lunch, explore booths and posters, vote for awards, and participate in our raffle for a chance to win a prize!

MODERNIZING FOR THE NEW ERA OF LIFE-SCIENCE INNOVATIONS

2:25 Chairperson's Remarks (Sponsorship Opportunity Available)

2:30 A Data Platform for Data Productization in a Data Mesh: The Good, the Bad, and the Ugly

Pierre Alexander Fischer, PhD, Product Line Lead, Data Integrations Generating Insights (DIGI), Roche

This session provides key lessons from our journey implementing a data-mesh strategy to make FAIR data available for enterprise use, moving from a centralized monolithic platform to a cloud-based self-service system with federated governance. We'll discuss successes, challenges, and failures encountered, offering insights on the technology, process, and people aspects of this transformation. Our goal is to humbly help others avoid the pitfalls we experienced modernizing our data platform.

3:00 Navigating the Data Landscape: The Cancer Research Data Commons Data Ecosystem

Durga Addepalli, PhD, Health Scientist, Center for Biomedical Informatics & IT, NIH NCI

NCI's Cancer Research Data Commons is a data ecosystem built to administer and manage the data generated by the various NCI funded programs for FAIR data sharing across the research community. NCI has been a pioneer in establishing a democratized ecosystem co-locating data and compute, building secure and scalable data commons and cloud analytical platforms for the diverse users from cancer community.

3:30 Modeling Outcomes Using Surveillance Data and Scalable AI for Cancer (MOSSAIC): Overview

Fernanda Foertter, MSc, Oakridge National Lab

4:00 Presentation to be Announced (Sponsorship Opportunity Available)

4:30 Best of Show Awards Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

Unwind with colleagues at our lively reception! Explore posters, vote for the best, network with exhibitors, enjoy a drink, and try to win a raffle prize. Celebrate Best of Show winners!

5:45 Close of Day

FRIDAY, APRIL 4

7:00 am Registration Open

7:00 Quick Bytes & Networking Breakfast—Lifted Rooftop Restaurant & Bar (Sponsorship Opportunity Available)

Start your morning with 'Quick Bytes & Networking!' Enjoy a cozy restaurant-style setting, quick bites, and speed networking. Connect, converse, and energize your Bio-IT experience before the plenary keynote!



8:00 Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute



8:05 Innovative Practices Awards: Excellence in Technological Innovation

Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

The Innovative Practices Awards recognizes and celebrates technology innovation in the life sciences. Bio-IT World is now accepting entries for the 2025 awards, recognizing partnerships and projects pushing our industry forward. Winners will be announced in mid-March 2025, acknowledged during the April 4 Plenary Keynote, and invited to present their work at the conference. For more information and to apply, visit www.bioitworldexpo.com/innovativepractices.

8:20 Presentation to be Announced

illumina

ADVANCING DRUG DISCOVERY AND HEALTHCARE THROUGH DATA-DRIVEN INNOVATION: FROM GENOMICS TO THERAPEUTICS



8:30 PLENARY KEYNOTE PRESENTATION: Scaling Genomic Medicine: Transforming Newborn Screening through Informatics and Innovation

Robert C. Green, MD, MPH, Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School

The BabySeq Project has pioneered the integration of genomic sequencing into newborn and childhood screening, uncovering unexpected risk variants and transforming healthcare delivery. This keynote explores the groundbreaking progress in genomic medicine, featuring real-world stories of families impacted by these discoveries. Learn about the informatics challenges and innovative solutions required to scale genomic screening for national and global implementation, reshaping the future of precision medicine.



9:00 PLENARY KEYNOTE PRESENTATION: Unlocking the Power of Machine Learning and Data-at-Scale to Deliver with Speed the Best Therapeutic Candidates

Justin M. Scheer, PhD, Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine

The challenges of high costs, lengthy timelines, and attrition have prompted our industry to integrate AI/ML into all aspects of the business. This presentation highlights J&J's strategic investments in AI/ML technologies to enhance drug discovery processes, including molecule design and optimization. By investing in these technologies with a modality-agnostic approach, J&J aims to tackle the hardest targets in drug discovery, ultimately increasing the success rate of delivering better molecules faster.

9:30 Session Q&A

9:45 Coffee Break in the Exhibit Hall with Poster Competition Winners Announced (Sponsorship Opportunity Available)



DATA PLATFORMS & STORAGE INFRASTRUCTURE

Optimize Data Storage Solutions for Peak Speed, Performance, and Cost Efficiency

Bio-IT is all about connections! Explore booths, award-winning posters, and network with clients, colleagues, and exhibitors. Grab coffee, build relationships, and stay for a chance to win a raffle prize!

10:30 Organizer's Remarks

INNOVATIONS IN DATA INFRASTRUCTURE

10:35 Chairperson's Remarks (*Sponsorship Opportunity Available*)

10:40 The Power of Mimicry: Integrating AI/ML with Molecular Function Optimization

Adam Kraut, Director, Research Informatics and Data Architecture, Metaphore Bio

Discover how Metaphore leverages the power of molecular mimicry and advanced AI/ML algorithms to optimize molecular functions for drug development. This presentation will explore our innovative data infrastructure that supports high-throughput experiments and scalable data management, enabling us to map, mimic, and optimize molecules with a function-first approach. Learn how integrating cutting-edge AI/ML with robust data platforms accelerates the discovery of next-generation therapeutics.

11:10 Data as a Strategic Asset: Empowering Users and Systems with Generate's Next-Gen Data Lake

Alok Saldanha, PhD, Technical Associate Director, NIBR Informatics, Novartis Institutes for Biomedical Research

Come explore the best practices that have driven the success of Generate's Next-Gen Data Lake. Learn how we leveraged a central repository of entities and vocabularies and reimagined lab processes to capture experimental context, and enhanced our computational infrastructure to be implicitly traceable. By building a unified data exchange we empower scientists to confidently access and interpret data across the platform.

11:40 Intuence: A Next-Generation Data-Analysis Platform

Vimala Selvaraj, Senior Principal Scientific Product Operational Manager, Novartis Biomedical Research

Integrating various tools, workflows, and data products into a connected suite helps scientists make faster and better decisions. Intuence Discovery (ID), which supports early drug discovery, focusing on lead optimization and technologies like protein degraders and cyclic peptides. ID helps with data annotation, gathering, analysis, and decision-making, covering the DMTA cycle from data querying to compound selection and analysis. ID is a fast, single webpage that enhances data-driven discussion.

12:10 pm Presentation to be Announced (*Sponsorship Opportunity Available*)

1:10 Session Break and Transition to Lunch

1:20 Luncheon Presentation (*Sponsorship Opportunity Available*) or **Enjoy Lunch on Your Own**

1:50 Refreshment Break in the Exhibit Hall with Last Chance for Poster Viewing (*Sponsorship Opportunity Available*)

Feeling tired? Recharge during the final Networking Exhibit Hall break! Visit booths, explore posters, connect with peers, and turn in your Game Cards for a chance to win a raffle prize.

2:30 Chairperson's Remarks (*Sponsorship Opportunity Available*)

TRENDS FROM THE TRENCHES: BRIDGING TRADITIONAL INSIGHTS WITH INNOVATIVE ADVANCEMENTS

2:35 Transforming Big Data into Actionable Insights: Leveraging the Sequence Read Archive (SRA) for Life Sciences and Public Health

J Rodney Brister, PhD, Acting Program Head, Sequence Read Archive, NCBI, NLM, NIH

As the world's largest available repository of raw sequence data, the Sequence Read Archive (SRA) plays a pivotal role in advancing public health and life sciences research. This presentation highlights state-of-the-art tools and strategies for managing and analyzing the SRA's massive datasets, showcasing its impact on infectious disease surveillance, genomic epidemiology, and precision medicine. Discover how innovative informatics solutions are transforming raw data into actionable insights for global health challenges.

3:05 Refactoring Research Systems with AI: Modernizing Code for Life Sciences Innovation

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute; Additional Speakers to be Confirmed

With AI taking center stage in coding, research teams are leveraging AI-enabled IDEs to refactor legacy systems into modern, efficient languages. This talk presents a balanced view of generative AI-supported coding, cutting through the hype to focus on real-world applications. Discover practical strategies and examples of how AI is transforming outdated research systems into scalable, maintainable, and future-ready platforms for life sciences.

3:35 Trends from the Trenches

Ari E. Berman, PhD, CEO, BioTeam, Inc.

Since 2010, "Trends from the Trenches" has been a cornerstone of Bio-IT, offering candid assessments of impactful and overhyped IT technologies in life sciences. This talk explores computing, storage, cloud, data science, and machine learning, emphasizing their role in data-intensive science. Looking ahead, it will share forward-thinking predictions on emerging technologies and trends shaping the future of life sciences, offering actionable insights to navigate the next wave of IT innovation.

4:05 Close of Conference



DATA MANAGEMENT

Harness Data to Accelerate Discoveries and Advancements in Life Sciences

WEDNESDAY, APRIL 2

8:00 am Registration Open

9:00 Recommended Pre-Conference Workshops and Symposia*

On Wednesday, April 2, 2025, Cambridge Healthtech Institute is pleased to offer five pre-conference Workshops scheduled across two time slots (9:00 am–12:00 pm and 1:15–4:15 pm) and three Symposia from 9:00 am–4:20 pm. All are designed to be instructional, interactive, and provide in-depth information on a specific topic. They allow for one-on-one interaction and provide a great way to explain more technical aspects that would otherwise not be covered during the main conference tracks that take place Thursday–Friday.

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4:40 Organizer's Remarks



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4:45 Presentation to be Announced



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Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

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6:10 Welcome Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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7:25 Close of Day

THURSDAY, APRIL 3

7:00 am Registration Open

8:00 Organizer's Remarks



Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

8:05 Presentation to be Announced



AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

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Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

9:15 Session Q&A

9:30 Coffee Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

Start your morning with coffee, connections, and cutting-edge research! Enjoy poster presentations, network in the Exhibit Hall, vote for awards, and a chance at a fabulous raffle prize!

10:15 Organizer's Welcome Remarks

TRANSFORMING DATA MANAGEMENT IN LIFE SCIENCES: STRATEGIES FOR INNOVATION AND COMPLIANCE

10:20 Chairperson's Remarks (Sponsorship Opportunity Available)

10:25 From Documents to Data: Collaborative Strategies for Data-Centric Submissions

Sophie Bailes, PhD, R&D IT Principal Business Partner, AstraZeneca

As the pharmaceutical industry shifts towards data-driven submissions for CMC modules, AstraZeneca drives the change by fostering collaboration between science and IT. This talk will showcase AstraZeneca's integrated FAIR Data Hub, which automates and standardizes data practices for advanced analytics, visualization, and regulatory compliance. The initiative aims to expedite drug approvals and enhance patient access by meeting evolving regulatory demands and driving digital transformation.

10:45 Building an Approachable Cost-Effective Data Management Platform

Kory Draughn, Chief Technologist, iRODS Consortium, RENCI Renaissance Computing Institute

Long-term data management is best executed when policies are clear and infrastructure is abstracted and swappable. iRODS has a desire to be normal and boring for the administrator and approachable and powerful for the user. This talk will cover recent advances and interfaces which allow companies to sustain FAIR data practices, enforce consistency and reproducibility, and realize cost-savings through open-source software.

11:05 Implementation of NextGen ELN and ELN Data Products

Amrik Mahal, PhD, Global Head, IT Research, AstraZeneca

Discover the immediate benefits of implementing a NextGen ELN, including unlocking valuable legacy ELN data and enhancing research capabilities. This talk will explore AstraZeneca's large-scale deployment to over 3,500 scientists, sharing best practices and lessons learned. Attendees will gain insights into



DATA MANAGEMENT

Harness Data to Accelerate Discoveries and Advancements in Life Sciences

how NextGen ELN integration accelerates decision-making by connecting research communities and creating data products that drive scientific innovation and discovery.

11:25 Enabling R&D and Its AI Ambitions through Data Products

Kiran Kodali, MBA, Head of R&D Data Strategy & Governance & Data Foundations, Sanofi

As Sanofi strives to be the first biopharma company powered by AI at scale, data is essential to achieving this vision. Data capabilities being developed are critical for implementing AI and GenAI solutions, providing actionable insights to decision-makers, and driving transformative advancements in life sciences. This talk explores best practices, strategies, and use cases that navigate data management complexities, foster collaboration, and unlock value from data assets for organizational growth.

11:45 Session Q&A with Speakers

11:55 Harnessing AI to Identify Causal Relationships and Enhance Research and Scientific Validation in Pharma

Peter Doerr, Director, Presales, metaphacts

This talk discusses how AI methods can help find gaps between curated knowledge in knowledge graphs and unstructured knowledge in scientific texts. We provide examples of how databases like OpenTargets can be enriched by using AI to identify causal relationships in scientific documents. With Knowledge Graph technology, these relationships are used to augment existing databases, allowing users to compare, spot gaps, and, crucially, find the relevant literature to ensure scientific validation.

12:10 pm Improving FAIRness of Omics Data through Metadata Harmonization

Sehyun Oh, Assistant Professor, Research Foundation, City University of New York

National efforts have established comprehensive biological data repositories, but cross-study analysis is limited by heterogeneous metadata. This lack of harmonization impedes the findability and AI/ML application of high-throughput omics data. The OmicsMLRepo project harmonizes metadata through schema consolidation and ontology incorporation, improving the FAIRness and AI/ML-readiness of metagenomics and cancer genomics datasets through R/Bioconductor packages for researchers.

12:25 Presentation to be Announced

12:40 Presentation to be Announced by Pinnacle Technology Partners Inc

12:55 Session Break and Transition to Lunch

1:05 Luncheon Presentation to be Announced

1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

Bio-IT's hall is bigger than ever—one break won't cut it! Enjoy dessert and coffee after lunch, explore booths and posters, vote for awards, and participate in our raffle for a chance to win a prize!

STREAMLINING MULTI-MODAL DATA INTEGRATION IN RESEARCH: INNOVATIONS IN LIMS AND DISCOVERY DATA MANAGEMENT

2:25 Chairperson's Remarks (Sponsorship Opportunity Available)

2:30 Presentation to be Announced



3:00 OligoLake: A Fast and Efficient Solution for Integrating Multi-Modal Research Data

Alexander Wyss, Data Engineer, Roche

FAIRifying discovery data is complex and time-consuming. We developed OligoLake to integrate multimodal data from oligonucleotide discovery projects using pRED systems. By leveraging efficient cloud storage (AWS S3), transparent data modeling (DBT), simple orchestration (GitLab CI), and a lightweight database (DuckDB), we created an MVP in weeks. This solution is reusable, scalable, and supports easy interaction through Python, R, and a GUI, offering significant value for other pRED data products.

3:30 Configuration-Driven LIMS Management: A Code-First Approach for Adapting to Dynamic Lab Workflows

Nirmit Damania, Senior Software Engineer, Dyno Therapeutics

Staying ahead in the ever-evolving landscape of scientific processes and experimentation is a challenge for ELN/LIMS engineers, especially with the rising demand for LIMS data integrating with downstream systems. This talk covers best practices from data engineering and CI/CD to establish a single source of truth for schema configurations that synchronize across LIMS tenants. Explore key decisions and tools for effective change management and seamless data integration across data platforms.

4:00 Presentation to be Announced

4:30 Best of Show Awards Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

Unwind with colleagues at our lively reception! Explore posters, vote for the best, network with exhibitors, enjoy a drink, and try to win a raffle prize. Celebrate Best of Show winners!

5:45 Close of Day

FRIDAY, APRIL 4

7:00 am Registration Open

7:00 Quick Bytes & Networking Breakfast—Lifted Rooftop Restaurant & Bar (Sponsorship Opportunity Available)

Start your morning with 'Quick Bytes & Networking'! Enjoy a cozy restaurant-style setting, quick bites, and speed networking. Connect, converse, and energize your Bio-IT experience before the plenary keynote!



8:00 Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute



8:05 Innovative Practices Awards: Excellence in Technological Innovation

Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

The Innovative Practices Awards recognizes and celebrates technology innovation in the life sciences. Bio-IT World is now accepting entries for the 2025 awards, recognizing partnerships and projects pushing our industry forward. Winners will be announced in mid-March 2025, acknowledged during the April 4 Plenary Keynote, and invited to present their work at the conference. For more information and to apply, visit www.bioitworldexpo.com/innovativepractices.





8:20 Presentation to be Announced

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ADVANCING DRUG DISCOVERY AND HEALTHCARE THROUGH DATA-DRIVEN INNOVATION: FROM GENOMICS TO THERAPEUTICS



8:30 PLENARY KEYNOTE PRESENTATION: Scaling Genomic Medicine: Transforming Newborn Screening through Informatics and Innovation

Robert C. Green, MD, MPH, Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School

The BabySeq Project has pioneered the integration of genomic sequencing into newborn and childhood screening, uncovering unexpected risk variants and transforming healthcare delivery. This keynote explores the groundbreaking progress in genomic medicine, featuring real-world stories of families impacted by these discoveries. Learn about the informatics challenges and innovative solutions required to scale genomic screening for national and global implementation, reshaping the future of precision medicine.



9:00 PLENARY KEYNOTE PRESENTATION: Unlocking the Power of Machine Learning and Data-at-Scale to Deliver with Speed the Best Therapeutic Candidates

Justin M. Scheer, PhD, Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine

The challenges of high costs, lengthy timelines, and attrition have prompted our industry to integrate AI/ML into all aspects of the business. This presentation highlights J&J's strategic investments in AI/ML technologies to enhance drug discovery processes, including molecule design and optimization. By investing in these technologies with a modality-agnostic approach, J&J aims to tackle the hardest targets in drug discovery, ultimately increasing the success rate of delivering better molecules faster.

9:30 Session Q&A

9:45 Coffee Break in the Exhibit Hall with Poster Competition Winners Announced (Sponsorship Opportunity Available)

Bio-IT is all about connections! Explore booths, award-winning posters, and network with clients, colleagues, and exhibitors. Grab coffee, build relationships, and stay for a chance to win a raffle prize!

10:30 Organizer's Remarks

BEST PRACTICES IN TECHNOLOGY INNOVATION

10:35 Chairperson's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

10:40 Innovative Practices Awards: Excellence in Technological Innovation

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

Since 2003, Bio-IT World has hosted an elite awards program with the goal of highlighting outstanding examples of how technology innovations and strategic initiatives are being applied to advance life sciences research. Winners of the 2025 Bio-IT World Innovative Practices Awards, recognized during the morning plenary keynote session, will give podium presentations during this session. For more details about the Awards and to submit an application, visit www.bioitworldexpo.com/innovativepractices.

12:10 pm Presentation to be Announced (Sponsorship Opportunity Available)

1:10 Session Break and Transition to Lunch

1:20 Luncheon Presentation to be Announced

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1:50 Refreshment Break in the Exhibit Hall with Last Chance for Poster Viewing (Sponsorship Opportunity Available)

Feeling tired? Recharge during the final Networking Exhibit Hall break! Visit booths, explore posters, connect with peers, and turn in your Game Cards for a chance to win a raffle prize.

2:30 Chairperson's Remarks (Sponsorship Opportunity Available)

TRENDS FROM THE TRENCHES: BRIDGING TRADITIONAL INSIGHTS WITH INNOVATIVE ADVANCEMENTS

2:35 Transforming Big Data into Actionable Insights: Leveraging the Sequence Read Archive (SRA) for Life Sciences and Public Health

J Rodney Brister, PhD, Acting Program Head, Sequence Read Archive, NCBI, NLM, NIH

As the world's largest available repository of raw sequence data, the Sequence Read Archive (SRA) plays a pivotal role in advancing public health and life sciences research. This presentation highlights state-of-the-art tools and strategies for managing and analyzing the SRA's massive datasets, showcasing its impact on infectious disease surveillance, genomic epidemiology, and precision medicine. Discover how innovative informatics solutions are transforming raw data into actionable insights for global health challenges.

3:05 Refactoring Research Systems with AI: Modernizing Code for Life Sciences Innovation

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute; Additional Speakers to be Confirmed

With AI taking center stage in coding, research teams are leveraging AI-enabled IDEs to refactor legacy systems into modern, efficient languages. This talk presents a balanced view of generative AI-supported coding, cutting through the hype to focus on real-world applications. Discover practical strategies and examples of how AI is transforming outdated research systems into scalable, maintainable, and future-ready platforms for life sciences.

3:35 Trends from the Trenches

Ari E. Berman, PhD, CEO, BioTeam, Inc.

Since 2010, "Trends from the Trenches" has been a cornerstone of Bio-IT, offering candid assessments of impactful and overhyped IT technologies in life sciences. This talk explores computing, storage, cloud, data science, and machine learning, emphasizing their role in data-intensive science. Looking ahead, it will share forward-thinking predictions on emerging technologies and trends shaping the future of life sciences, offering actionable insights to navigate the next wave of IT innovation.

4:05 Close of Conference



DATA SCIENCE & ANALYTICS TECHNOLOGIES

Tools and Methods for Extracting Insights and Value from Data to Advance Biomedical Research

WEDNESDAY, APRIL 2

8:00 am Registration Open

9:00 Recommended Pre-Conference Workshops and Symposia*

On Wednesday, April 2, 2025, Cambridge Healthtech Institute is pleased to offer five pre-conference Workshops scheduled across two time slots (9:00 am–12:00 pm and 1:15–4:15 pm) and three Symposia from 9:00 am–4:20 pm. All are designed to be instructional, interactive, and provide in-depth information on a specific topic. They allow for one-on-one interaction and provide a great way to explain more technical aspects that would otherwise not be covered during the main conference tracks that take place Thursday–Friday.

*Separate registration required. See details on the Symposia here and details on the Workshops here.

4:40 Organizer's Remarks



Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners

Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

Generative AI has the potential to transform life sciences and deliver unprecedented insights, automation, and efficiency. But is it? This panel brings leaders from biopharma, healthcare, and emerging tech who are leveraging AI to advance drug discovery, diagnostics, and patient care. Panelists will present case studies, sharing real-world applications and how they've navigated technical and cultural challenges. Look beyond the hype to discover the technology's current impact and future opportunities.

6:10 Welcome Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)



The Bio-IT Kickoff Reception is a reunion—reconnect with friends, explore cutting-edge research, and celebrate innovation! Enjoy poster presentations, networking, and vote for the Best of Show and Poster awards.

7:25 Close of Day

THURSDAY, APRIL 3

7:00 am Registration Open

8:00 Organizer's Remarks



Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

8:05 Presentation to be Announced



AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

This presentation delves into how advanced deep learning models analyze vast molecular libraries to identify potential antibiotic compounds with remarkable speed and precision. Highlighting recent breakthroughs and real-world applications, Dr. Collins will discuss AI's transformative potential to address antibiotic resistance and open new pathways for therapeutics.



8:45 PLENARY KEYNOTE PRESENTATION: Generative AI, Aging Research and Robotics as a Platform for Drug Discovery: From Hype to Clinical Efficacy

Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

9:15 Session Q&A

9:30 Coffee Break in the Exhibit Hall with Poster Viewing

(Sponsorship Opportunity Available)

Start your morning with coffee, connections, and cutting-edge research! Enjoy poster presentations, network in the Exhibit Hall, vote for awards, and a chance at a fabulous raffle prize!

10:15 Organizer's Welcome Remarks

AI-POWERED TRANSFORMATION IN LIFE SCIENCES: DATA SCIENCE SOLUTIONS FOR REAL-WORLD IMPACT

10:20 Chairperson's Remarks (Sponsorship Opportunity Available)

10:25 Data Science and AI in Biomedical Research: Bridging Analysis with Advanced Technologies

Parthiban Srinivasan, PhD, Professor and Director, Centre for AI in Medicine, Vinayaka Mission's Research Foundation, India

This talk explores the integration of data science and AI in biomedical research, focusing on four key types of data analysis: descriptive, exploratory, predictive, and prescriptive. We will discuss how these methods, combined with advanced technologies like knowledge graphs (using Neo4J) and large language models (LLMs) from HuggingFace, are transforming the way biomedical data is analyzed and interpreted, driving innovation in drug discovery and clinical research.

10:55 Accelerating Real-World Evidence Extraction with LLM-Optimized Bioinformatics Pipelines in the Human Omics Hub

Weiwei Schultz, PhD, Distinguished Scientist, Data Science and Digital Health, Johnson and Johnson Innovative Medicine

The Human Omics Hub focuses on integrating multi-omics data management, starting with the UK Biobank. However, fragmented pipelines hinder scalability. This study employs large language models (LLMs) to automate standardized Nextflow pipeline creation for multi-omics data processing. By merging LLMs with expert input, we optimized the development process, significantly reducing coding time and costs while accelerating real-world evidence generation from diverse omics data, including EHR and genomics.

11:25 Leveraging Supercomputing for *in silico* Human Heart Models in Cardiac Drug Safety

Mariano Vazquez, PhD, Co-Founder and CTO, ELEM Biotech, Barcelona, Spain

This presentation examines the transformative role of supercomputer-driven *in silico* trials in assessing cardiac drug safety. Utilizing advanced



DATA SCIENCE & ANALYTICS TECHNOLOGIES

Tools and Methods for Extracting Insights and Value from Data to Advance Biomedical Research

electrophysiological models of the human heart, we will demonstrate how these virtual trials can accurately predict drug-induced arrhythmias and QT interval prolongation, reducing reliance on traditional testing methods. Gain insights into integrating multi-scale modeling and AI into precision medicine, providing a scalable solution that enhances drug safety, minimizes costs, and improves outcomes.

11:55 Enabling AI Workflows with Copyright



Michael Iarrobino, Director Product Management, Product Management, Copyright Clearance Center

Many AI systems depend on scientific, technical, and medical literature for model training and to support critical business workflows across numerous functions. As AI offerings mature, the intertwined responsibilities to copyright, data integrity, and data quality are essential to building user trust. This talk will explain key copyright considerations for your AI initiatives, identify solutions already available to address these needs, and set a vision for rights-aware AI systems that are able to achieve their promise.

12:10 pm Presentation to be Announced (Sponsorship Opportunity Available)

12:25 Presentation to be Announced

12:55 Session Break and Transition to Lunch

1:05 Luncheon Presentation to be Announced

1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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UNLOCKING THE VALUE OF BIOMEDICAL DIGITAL TWINS: FROM CUTTING-EDGE TECHNOLOGIES IN BIOPHARMA R&D TO PERSONALIZED PATIENT CARE

2:25 Chairperson's Remarks

Eric Stahlberg, PhD, Director, Cancer Data Science Initiatives, Cancer Research Technology Program, Frederick National Laboratory for Cancer Research, Rockville, Maryland, USA

2:30 Unlocking the Value of Biomedical Digital Twins: From Cutting-Edge Technologies in BioPharma R&D to Personalized Patient Care

Douglas E. Kiehl, Senior Director, Disruptive & Transformative Technologies Team, Digital Twin COE, Eli Lilly & Co.

Andy Kilianski, PhD, Program Manager, Health Science Futures, ARPA-H

Eric Stahlberg, PhD, Director, Cancer Data Science Initiatives, Cancer Research Technology Program, Frederick National Laboratory for Cancer Research, Rockville, Maryland, USA

Digital twin technology, already transformative in aerospace and energy, holds vast potential in biopharmaceutical R&D and personalized healthcare. Integrating extensive biomedical data, AI innovations, and precision medicine, digital twins can advance disease prediction, optimize treatments, and improve oncology and patient outcomes. Gain valuable insights into applying digital twins and predictive models within oncology and biopharma, addressing technical and data-related challenges, emerging AI uses, and future pathways that prioritize patient-centered care.

4:00 Presentation to be Announced (Sponsorship Opportunity Available)

4:30 Best of Show Awards Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

Unwind with colleagues at our lively reception! Explore posters, vote for the best, network with exhibitors, enjoy a drink, and try to win a raffle prize. Celebrate Best of Show winners!

5:45 Close of Day

FRIDAY, APRIL 4

7:00 am Registration Open

7:00 Quick Bytes & Networking Breakfast—Lifted Rooftop Restaurant & Bar (Sponsorship Opportunity Available)

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8:00 Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute



8:05 Innovative Practices Awards: Excellence in Technological Innovation

Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

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8:20 Presentation to be Announced



ADVANCING DRUG DISCOVERY AND HEALTHCARE THROUGH DATA-DRIVEN INNOVATION: FROM GENOMICS TO THERAPEUTICS



8:30 PLENARY KEYNOTE PRESENTATION: Scaling Genomic Medicine: Transforming Newborn Screening through Informatics and Innovation

Robert C. Green, MD, MPH, Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School

The BabySeq Project has pioneered the integration of genomic sequencing into newborn and childhood screening, uncovering unexpected risk variants and transforming healthcare delivery. This keynote explores the groundbreaking progress in genomic medicine, featuring real-world stories of families impacted by these discoveries. Learn about the informatics challenges and innovative solutions required to scale genomic screening for national and global implementation, reshaping the future of precision medicine.



DATA SCIENCE & ANALYTICS TECHNOLOGIES

Tools and Methods for Extracting Insights and Value from Data to Advance Biomedical Research



9:00 PLENARY KEYNOTE PRESENTATION: Unlocking the Power of Machine Learning and Data-at-Scale to Deliver with Speed the Best Therapeutic Candidates

Justin M. Scheer, PhD, Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine

The challenges of high costs, lengthy timelines, and attrition have prompted our industry to integrate AI/ML into all aspects of the business. This presentation highlights J&J's strategic investments in AI/ML technologies to enhance drug discovery processes, including molecule design and optimization. By investing in these technologies with a modality-agnostic approach, J&J aims to tackle the hardest targets in drug discovery, ultimately increasing the success rate of delivering better molecules faster.

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10:30 Organizer's Remarks

PATHWAYS TO IMPACT: DRIVING RESEARCH AND INNOVATION THROUGH INCLUSION AND DIVERSITY IN DATA SCIENCE AND LIFE SCIENCES TO ADVANCE HEALTH AND PRECISION MEDICINE

10:35 Chairperson's Remarks *(Sponsorship Opportunity Available)*

10:40 Pathways to Impact: Driving Research and Innovation through Inclusion and Diversity in Data Science and Life Sciences to Advance Health and Precision Medicine

Jason Alexander, Chief Revenue Officer & Co-Founder, BANKW Staffing, LLC

Jared Auclair, PhD, Co-Lead, BioConnects New England; Associate Teaching Professor, Chemistry & Chemical Biology, Northeastern University

Jason Beckwith, PhD, Professor, School of Business, University of Dundee

Carolina Benjaminsen, PhD, Senior Director, Head of Digital Science Academy, Digital Science & Innovation, R&ED, NovoNordisk

Kevin M. Ileka, PhD, Associate Director, Worldwide Immunology Communications, Bristol Myers Squibb Co.

Martin Leach, PhD, MBA, Chief Data Officer, Black Canyon Consulting LLC

This panel will examine how inclusion and diversity are essential for advancing research and innovation in data science and life sciences. By embracing diverse perspectives, organizations can boost innovation, enhance problem-solving, and attract top talent. Attendees will discover effective strategies for creating inclusive teams, the impact of diverse talent on research outcomes, and the advantages of diversity in navigating industry changes and improving health outcomes in precision medicine.

12:10 pm Presentation to be Announced *(Sponsorship Opportunity Available)*

1:10 Session Break and Transition to Lunch

1:20 Luncheon Presentation *(Sponsorship Opportunity Available)* or Enjoy Lunch on Your Own

1:50 Refreshment Break in the Exhibit Hall with Last Chance for Poster Viewing *(Sponsorship Opportunity Available)*

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TRENDS FROM THE TRENCHES: BRIDGING TRADITIONAL INSIGHTS WITH INNOVATIVE ADVANCEMENTS

2:35 Transforming Big Data into Actionable Insights: Leveraging the Sequence Read Archive (SRA) for Life Sciences and Public Health

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3:05 Refactoring Research Systems with AI: Modernizing Code for Life Sciences Innovation

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute; *Additional Speakers to be Confirmed*

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Ari E. Berman, PhD, CEO, BioTeam, Inc.

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4:05 Close of Conference



SOFTWARE APPLICATIONS & SERVICES

Build Robust Data Ecosystems with Software Solutions

WEDNESDAY, APRIL 2

8:00 am Registration Open

9:00 Recommended Pre-Conference Workshops and Symposia*

On Wednesday, April 2, 2025, Cambridge Healthtech Institute is pleased to offer five pre-conference Workshops scheduled across two time slots (9:00 am–12:00 pm and 1:15–4:15 pm) and three Symposia from 9:00 am–4:20 pm. All are designed to be instructional, interactive, and provide in-depth information on a specific topic. They allow for one-on-one interaction and provide a great way to explain more technical aspects that would otherwise not be covered during the main conference tracks that take place Thursday–Friday.

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4:40 Organizer's Remarks



Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners

Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

Generative AI has the potential to transform life sciences and deliver unprecedented insights, automation, and efficiency. But is it? This panel brings leaders from biopharma, healthcare, and emerging tech who are leveraging AI to advance drug discovery, diagnostics, and patient care. Panelists will present case studies, sharing real-world applications and how they've navigated technical and cultural challenges. Look beyond the hype to discover the technology's current impact and future opportunities.

6:10 Welcome Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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7:25 Close of Day

THURSDAY, APRIL 3

7:00 am Registration Open

8:00 Organizer's Remarks



Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

8:05 Presentation to be Announced



AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

This presentation delves into how advanced deep learning models analyze vast molecular libraries to identify potential antibiotic compounds with remarkable speed and precision. Highlighting recent breakthroughs and real-world applications, Dr. Collins will discuss AI's transformative potential to address antibiotic resistance and open new pathways for therapeutics.



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Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

9:15 Session Q&A

9:30 Coffee Break in the Exhibit Hall with Poster Viewing

(Sponsorship Opportunity Available)

Start your morning with coffee, connections, and cutting-edge research! Enjoy poster presentations, network in the Exhibit Hall, vote for awards, and a chance at a fabulous raffle prize!

10:15 Organizer's Welcome Remarks

DRIVING EFFICIENCY, INNOVATION, AND WORKFORCE TRANSFORMATION IN SCIENTIFIC RESEARCH AND PHARMA

10:20 Chairperson's Remarks (Sponsorship Opportunity Available)

10:25 Project Management and AI

Gurpreet Kanwar, Senior Manager Programs, Portfolio Delivery Group, NAV CANADA

Project management is being revolutionized by Artificial Intelligence (AI), enhancing decision-making, resource allocation, and risk prediction. By analyzing large datasets and identifying patterns, AI helps optimize timelines and improve project efficiency. This presentation will highlight the key benefits of AI in project management, current trends, and how organizations can leverage these innovations to mitigate risks and achieve successful outcomes more effectively.

10:55 Scaling a User Experience Team in a Product-Centered Scientific Research Organization at Novartis Biomedical Research

Sven Neumeyer, Director, Business Analysis and User Experience, Novartis Biomedical Research

Sven Neumeyer will provide insights into enhancing the impact of a User Experience team in a product-centered scientific research organization at Novartis Biomedical Research. He will outline a strategic playbook based on three fundamental principles: 1. organizational design, 2. the establishment of a framework, and 3. capability building. This presentation will showcase how the entire team not only improved their own operational excellence but also empowered the broader research informatics organization.



SOFTWARE APPLICATIONS & SERVICES

Build Robust Data Ecosystems with Software Solutions

11:25 Upskilling Pharma Colleagues with Digital and Software Tools: Navigating Opportunities and Challenges for a Future-Ready Workforce

Carolina Benjaminsen, PhD, Senior Director, Head of Digital Science Academy, Digital Science & Innovation, R&ED, NovoNordisk

In the era of digital transformation, pharmaceutical organizations must equip their non-digital workforce with essential skills to leverage digital and software tools. This talk will discuss the role of software-based learning platforms, digital training resources, and customized software solutions offered through Novo Nordisk's Digital Science Academy. Explore challenges, successes, and strategies in fostering a digitally savvy workforce that can drive innovation and support software-driven initiatives.

11:55 ELaiN—The AI Scientific Assistant: How Quickly They Grow Up

Rob Brown, Global Vice President of Product and Pre-Sales, Sapio Sciences



12:25 pm Presentation to be Announced

12:55 Session Break and Transition to Lunch

1:05 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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TRANSFORMING SCIENTIFIC RESEARCH THROUGH EFFECTIVE SOFTWARE DEVELOPMENT AND COLLABORATIVE APPROACHES

2:25 Chairperson's Remarks (Sponsorship Opportunity Available)

2:30 Bridging Science and Development: A Lightweight Approach to Fullstack Applications for Scientists

Alex Kim, Principal Data Scientist, Data Science, Johnson & Johnson

In an era of rapidly evolving scientific technologies, the need to transform innovative ideas into practical, end-to-end solutions for scientists, data scientists, and executives is greater than ever. Application development remains crucial, but to ensure the longevity of software, a robust development pipeline that supports rapid prototyping, quick pivoting, and effective stakeholder management is essential—especially in the fast-paced world of data science solutions.

3:00 Empowering Discovery: Simplifying Data Access and Reporting with DashboardCentral and AssayCentral at AbbVie

Xiaofeng Li, Senior Data Scientist, Information Research, AbbVie, Inc.

DashboardCentral and AssayCentral are AbbVie's in-house web tools designed for streamlined access to preclinical data. DashboardCentral provides easy access to dashboards from the preclinical datamart, while AssayCentral enables standardized assay reporting for project teams. With intuitive interfaces for efficient querying and visualization, these tools enhance data accessibility and presentation, improving research outcomes for Discovery Scientists.

3:30 Using Serverless Data Portals for Making Data FAIR by Default

Vas Vasiliadis, Chief Customer Officer, University of Chicago, Globus

The focus on making data FAIR (findable, accessible, interoperable, and reusable) often adds administrative overhead for researchers, leading to incomplete data compliance. This talk explores how Globus data portal technology can reduce or eliminate this burden by integrating data description and sharing directly into the research workflow. By automating

these processes, researchers can ensure data is FAIR by default, enhancing accessibility and collaboration across scientific projects.

4:00 Presentation to be Announced



4:15 Sponsored Presentation (Opportunity Available)

4:30 Best of Show Awards Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

Unwind with colleagues at our lively reception! Explore posters, vote for the best, network with exhibitors, enjoy a drink, and try to win a raffle prize. Celebrate Best of Show winners!

5:45 Close of Day

FRIDAY, APRIL 4

7:00 am Registration Open

7:00 Quick Bytes & Networking Breakfast—Lifted Rooftop Restaurant & Bar (Sponsorship Opportunity Available)

Start your morning with 'Quick Bytes & Networking'! Enjoy a cozy restaurant-style setting, quick bites, and speed networking. Connect, converse, and energize your Bio-IT experience before the plenary keynote!



8:00 Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute



8:05 Innovative Practices Awards: Excellence in Technological Innovation

Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

The Innovative Practices Awards recognizes and celebrates technology innovation in the life sciences. Bio-IT World is now accepting entries for the 2025 awards, recognizing partnerships and projects pushing our industry forward. Winners will be announced in mid-March 2025, acknowledged during the April 4 Plenary Keynote, and invited to present their work at the conference. For more information and to apply, visit www.bioitworldexpo.com/innovativepractices.

8:20 Presentation to be Announced



ADVANCING DRUG DISCOVERY AND HEALTHCARE THROUGH DATA-DRIVEN INNOVATION: FROM GENOMICS TO THERAPEUTICS



8:30 PLENARY KEYNOTE PRESENTATION: Scaling Genomic Medicine: Transforming Newborn Screening through Informatics and Innovation

Robert C. Green, MD, MPH, Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School

The BabySeq Project has pioneered the integration of genomic sequencing into newborn and childhood screening, uncovering unexpected risk variants and transforming healthcare delivery. This keynote explores the groundbreaking progress in genomic medicine, featuring real-world stories of families impacted by these discoveries. Learn about the informatics challenges and innovative solutions required to scale genomic screening for national and global implementation, reshaping the future of precision medicine.



SOFTWARE APPLICATIONS & SERVICES

Build Robust Data Ecosystems with Software Solutions



9:00 PLENARY KEYNOTE PRESENTATION: Unlocking the Power of Machine Learning and Data-at-Scale to Deliver with Speed the Best Therapeutic Candidates

Justin M. Scheer, PhD, Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine

The challenges of high costs, lengthy timelines, and attrition have prompted our industry to integrate AI/ML into all aspects of the business. This presentation highlights J&J's strategic investments in AI/ML technologies to enhance drug discovery processes, including molecule design and optimization. By investing in these technologies with a modality-agnostic approach, J&J aims to tackle the hardest targets in drug discovery, ultimately increasing the success rate of delivering better molecules faster.

9:30 Session Q&A

9:45 Coffee Break in the Exhibit Hall with Poster Competition Winners Announced *(Sponsorship Opportunity Available)*

Bio-IT is all about connections! Explore booths, award-winning posters, and network with clients, colleagues, and exhibitors. Grab coffee, build relationships, and stay for a chance to win a raffle prize!

10:30 Organizer's Remarks

AI-DRIVEN DEVELOPMENT: REDEFINING SOFTWARE ENGINEERING

10:35 Chairperson's Remarks

Drew Dresser, Director, Cloud Engineering, Flagship Pioneering

10:40 AI-Driven Development: Redefining Software Engineering

Drew Dresser, Director, Cloud Engineering, Flagship Pioneering

As AI reshapes software development, it accelerates the creation of powerful tools and insights, propelling innovation in life sciences. This session delves into how AI-driven approaches—like large language models, automated data analytics, and machine learning pipelines—are advancing software engineering. We'll explore how these advancements enable faster iteration cycles, streamlined data integration, and tailored solutions, transforming complex biomedical challenges into actionable breakthroughs. Join us for lightning talks on cutting-edge AI applications.

12:10 pm Presentation to be Announced *(Sponsorship Opportunity Available)*

1:10 Session Break and Transition to Lunch

1:20 Luncheon Presentation *(Sponsorship Opportunity Available)* or Enjoy Lunch on Your Own

1:50 Refreshment Break in the Exhibit Hall with Last Chance for Poster Viewing *(Sponsorship Opportunity Available)*

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2:30 Chairperson's Remarks *(Sponsorship Opportunity Available)*

TRENDS FROM THE TRENCHES: BRIDGING TRADITIONAL INSIGHTS WITH INNOVATIVE ADVANCEMENTS

2:35 Transforming Big Data into Actionable Insights: Leveraging the Sequence Read Archive (SRA) for Life Sciences and Public Health

J Rodney Brister, PhD, Acting Program Head, Sequence Read Archive, NCBI, NLM, NIH

As the world's largest available repository of raw sequence data, the Sequence Read Archive (SRA) plays a pivotal role in advancing public health and life sciences research. This presentation highlights state-of-the-art tools and strategies for managing and analyzing the SRA's massive datasets, showcasing its impact on infectious disease surveillance, genomic epidemiology, and precision medicine. Discover how innovative informatics solutions are transforming raw data into actionable insights for global health challenges.

3:05 Refactoring Research Systems with AI: Modernizing Code for Life Sciences Innovation

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute; Additional Speakers to be Confirmed

With AI taking center stage in coding, research teams are leveraging AI-enabled IDEs to refactor legacy systems into modern, efficient languages. This talk presents a balanced view of generative AI-supported coding, cutting through the hype to focus on real-world applications. Discover practical strategies and examples of how AI is transforming outdated research systems into scalable, maintainable, and future-ready platforms for life sciences.

3:35 Trends from the Trenches

Ari E. Berman, PhD, CEO, BioTeam, Inc.

Since 2010, "Trends from the Trenches" has been a cornerstone of Bio-IT, offering candid assessments of impactful and overhyped IT technologies in life sciences. This talk explores computing, storage, cloud, data science, and machine learning, emphasizing their role in data-intensive science. Looking ahead, it will share forward-thinking predictions on emerging technologies and trends shaping the future of life sciences, offering actionable insights to navigate the next wave of IT innovation.

4:05 Close of Conference



CLOUD FOR AI/ML & MODERN DATA SCIENCE

Design Agile, Scalable, Cost-Optimized Cloud Infrastructure

WEDNESDAY, APRIL 2

8:00 am Registration Open

9:00 Recommended Pre-Conference Workshops and Symposia*

On Wednesday, April 2, 2025, Cambridge Healthtech Institute is pleased to offer five pre-conference Workshops scheduled across two time slots (9:00 am–12:00 pm and 1:15–4:15 pm) and three Symposia from 9:00 am–4:20 pm. All are designed to be instructional, interactive, and provide in-depth information on a specific topic. They allow for one-on-one interaction and provide a great way to explain more technical aspects that would otherwise not be covered during the main conference tracks that take place Thursday–Friday.

*Separate registration required. See details on the Symposia here and details on the Workshops here.

4:40 Organizer's Remarks



Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners

Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

Generative AI has the potential to transform life sciences and deliver unprecedented insights, automation, and efficiency. But is it? This panel brings leaders from biopharma, healthcare, and emerging tech who are leveraging AI to advance drug discovery, diagnostics, and patient care. Panelists will present case studies, sharing real-world applications and how they've navigated technical and cultural challenges. Look beyond the hype to discover the technology's current impact and future opportunities.

6:10 Welcome Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)



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7:25 Close of Day

THURSDAY, APRIL 3

7:00 am Registration Open

8:00 Organizer's Remarks



Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

8:05 Presentation to be Announced



AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

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Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

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10:15 Organizer's Welcome Remarks

SETTING UP AND SCALING AGILE DATA AND ANALYTICS ECOSYSTEMS

10:20 Chairperson's Remarks (Sponsorship Opportunity Available)

10:25 Scaling AI/ML in Biotech: A Survey of Cloud Trends and Innovations

Drew Dresser, Director, Cloud Engineering, Flagship Pioneering

This presentation surveys how Flagship Pioneering's portfolio companies use cloud technologies to scale AI/ML models. We'll examine architecture patterns, strategies, and lessons learned, showcasing methods for scaling compute and pipelines. Additionally, the talk will highlight emerging trends in cloud and AI/ML, offering insights into how these innovations are shaping the future of biotech research. Attendees will gain practical strategies for optimizing cloud environments to drive AI/ML growth in biotech.

10:55 Cloud Genetics: A Blueprint for Precision Medicines

Gregory Hinkle, PhD, Vice President, Research Informatics, Alnylam Pharmaceuticals, Inc.

This presentation will detail challenges and solutions in implementing large-scale human genetics to support sequence-based precision medicines like RNAi therapeutics. Key topics will include data management, cost effectiveness, and navigating ever more stringent data security standards. The talk will highlight innovative strategies and technologies that Alnylam put in place to pave the way for the development and delivery of novel RNAi therapeutics to patients in need.

11:25 Flexible Architecture for Machine Learning for Genomics

Yohann Potier, PhD, Senior Director, Data Platform, Tessera Therapeutics, Inc.


This talk will explore the architecture for developing, deploying, and scaling machine learning models in genomics. It will emphasize the importance of creating a flexible infrastructure that can accommodate a range of ML workloads for drug development. Key topics will cover optimizing model training, managing datasets, and efficiently utilizing compute resources to meet different workload demands while ensuring cost-effectiveness and scalability.



CLOUD FOR AI/ML & MODERN DATA SCIENCE

Design Agile, Scalable, Cost-Optimized Cloud Infrastructure

11:55 Presentation to be Announced

12:25 pm Presentation to be Announced (Sponsorship Opportunity Available) 

12:40 Presentation to be Announced

12:55 Session Break and Transition to Lunch

1:05 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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LEVERAGING CLOUD FOR FASTER, BETTER DATA MANAGEMENT AND ANALYTICS

2:25 Chairperson's Remarks (Sponsorship Opportunity Available)

2:30 Transforming Drug Discovery: Leveraging Secure, Federated Learning to Collaboratively Train AI Models on the Proprietary Molecular Data of Multiple Organizations

John Karanicolas, PhD, Professor, Molecular Therapeutics, Fox Chase Cancer Center

Robin Roehm, CEO & Co-Founder, Apheris

A major challenge in advancing AI algorithms for modern drug discovery is the limited availability of protein and ligand structures needed to train AI models. For the first time, leading biopharmaceutical companies enable collaborative training of AI models that predict the 3D structure of molecular complexes using their proprietary protein structure data. In our talk, we will introduce the AI Structural Biology Consortium and present initial results.

3:00 Keeping Pace with the Speed of Science: Evolving Cloud Architectures for Scale and Cost in Life Sciences

Nick Whalen, Data Architecture, Standards and Flow, Novartis

From the design of embarrassingly parallel compute for High Content Image Analysis, to management of large clinical data sets, to emerging therapeutic modalities, the demand to design performant architectures at scale while not breaking the bank is an essential skill for any organization looking to leverage the benefits of cloud technologies. In this talk, we explore strategies and techniques to keep costs down while balancing user requirements and tight budgets.

3:30 State-of-the-Art Hybrid Cloud Solutions in Conjunction with an External Partner

David Herzig, Principal Scientist, Roche Pharma

In today's landscape, system architectures are frequently developed in partnership with external providers. Responsibilities for support, maintenance, and customization are often distributed among the user, the provider, and occasionally a third-party support service. Running a system in an external cloud environment presents both organizational and technical challenges. This presentation will explore how these challenges can be effectively addressed, using the example of an ELN software.

4:00 Presentation to be Announced (Sponsorship Opportunity Available)

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CLOUD FOR AI/ML & MODERN DATA SCIENCE

Design Agile, Scalable, Cost-Optimized Cloud Infrastructure

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10:30 Organizer's Remarks

BENEFITS OF CLOUD IN BIOPHARMA: CASE STUDIES AND BEST PRACTICES

10:35 Chairperson's Remarks *(Sponsorship Opportunity Available)*

10:40 Using Durable Workflow Technology to Run Image Analysis in the Cloud

Matthew Gerring, MEng, Senior Manager, Computational Sciences, The Jackson Laboratory

We will show how image analysis can be taken from research level software to high quality and production ready systems. Attendees will learn how Jackson Laboratory transitioned research-level software into production-ready systems for scalable and durable image analysis. This presentation will feature biological image data, offer insights into new paradigms for cloud-based analysis, and appeal to those interested in scaling analysis of any type using distributed programming and cloud technologies.

11:05 One Research Digital—Ecosystems of FAIR Data Lakes Enabling AI-Augmented Analysis, Modeling, and Reporting

Marcin von Grotthuss, PhD, Director, Data Integration and Analytics, Preclinical and Translational Sciences, Takeda Pharmaceutical Co., Ltd.

The collaborative efforts within Takeda, supported by external vendors, led to the development and prototyping of One Research Digital—an ecosystem comprised of FAIR data lakes. During the design phase, we adhered to the FAIR principles and utilized a data lake infrastructure with a flexible data storage schema as the system's cornerstone. These advancements enable us to enhance AI-augmented analysis, modeling, and reporting across preclinical and translational sciences.

11:25 Ultra-Large Virtual Screening is Enabled by Orchestrating Cloud-Based Computation

Rajarshi Guha, PhD, Senior Director, Data & Computational Sciences, Vertex Pharmaceuticals Inc.

We describe a virtual screening infrastructure that uses Nextflow to parallelize a Genetic Algorithm Virtual Screening method coupled to computational chemistry primitives, such as shape matching and docking, implemented as AWS Lambdas. We present some benchmark results highlighting the efficiency and accuracy of the method, along with the performance gains achieved by virtue of cloud-based parallelization.

11:45 Building a Serverless Data Platform for Biotech Companies

Patrick O'Mara, Associate Director, Research Informatics, Photys Therapeutics

This presentation showcases the construction of a serverless data pipeline for biotech start-ups. Using Apache Airflow on Google Cloud Composer, it automates data transfers between Egnyte, CDD Vault, and BigQuery. Highlighting CDD Vault's robust API and data model, the talk demonstrates how this solution enhances data management, accelerates insights, and supports innovation, offering a scalable and cost-efficient approach for biotech organizations.

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1:10 Session Break and Transition to Lunch

1:20 Luncheon Presentation *(Sponsorship Opportunity Available)* or Enjoy Lunch on Your Own

1:50 Refreshment Break in the Exhibit Hall with Last Chance for Poster Viewing *(Sponsorship Opportunity Available)*

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TRENDS FROM THE TRENCHES: BRIDGING TRADITIONAL INSIGHTS WITH INNOVATIVE ADVANCEMENTS

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GENERATIVE AI

Harness Data Potential to Drive Innovation and Advance Biomedical Research

WEDNESDAY, APRIL 2

8:00 am Registration Open

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Sofia Guerra, Vice President, Bessemer Venture Partners

Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

Generative AI has the potential to transform life sciences and deliver unprecedented insights, automation, and efficiency. But is it? This panel brings leaders from biopharma, healthcare, and emerging tech who are leveraging AI to advance drug discovery, diagnostics, and patient care. Panelists will present case studies, sharing real-world applications and how they've navigated technical and cultural challenges. Look beyond the hype to discover the technology's current impact and future opportunities.

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7:25 Close of Day

THURSDAY, APRIL 3

7:00 am Registration Open

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AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

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Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

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9:30 Coffee Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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10:15 Organizer's Welcome Remarks

GENERATIVE AI IN LIFE SCIENCES: TRANSFORMING DOCUMENT GENERATION, MOLECULAR DISCOVERY, AND R&D

10:20 Chairperson's Remarks

Rishi R. Gupta, PhD, Director, Data Science, Novartis Institutes for Biomedical Research, Inc.

10:25 Scaling Clinical Document Generation: Insights on Technical and User Experience Considerations

Irene Pak, Head, AI Data & Analytics, Bristol Myers Squibb Co.

DocGen AI is our innovative clinical document authoring platform, currently expanding to encompass over 60 document types this year. This talk will outline the latest phase of the platform's evolution, focusing on technical considerations and user experience, particularly regarding the quality of generated sections. We will also present initial metrics on user adoption and productivity improvements.

10:55 Harnessing Institutional Knowledge to Accelerate the Discovery of Medicines

Rishi R. Gupta, PhD, Director, Data Science, Novartis Institutes for Biomedical Research, Inc.

This talk explores how Novartis leverages generative AI to harness institutional knowledge for accelerating drug discovery. By integrating data science and AI-driven insights, this approach unearths critical knowledge assets, streamlining research processes and enhancing decision-making. Attendees will gain an understanding of how AI tools facilitate knowledge discovery, reduce time-to-insight, and drive innovation in pharmaceutical research, ultimately advancing the discovery of effective new therapies.

11:25 Generative AI for Molecules

Abhishek Pandey, PhD, Global Lead & Principal Research Scientist, Information Research, AbbVie, Inc.

This talk delves into AI-driven approaches for designing and predicting molecular structures, optimizing drug discovery processes, and uncovering



GENERATIVE AI

Harness Data Potential to Drive Innovation and Advance Biomedical Research

novel therapeutic candidates. Attendees will gain insights into generative AI's transformative role in R&D, enhancing precision and efficiency in molecular and pharmaceutical sciences.

11:55 Presentation to be Announced



12:25 pm Presentation to be Announced

12:55 Session Break and Transition to Lunch



1:05 Luncheon Presentation to be Announced

1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)



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STRATEGIC AI INTEGRATION AND GOVERNANCE IN PHARMA

2:25 Chairperson's Remarks (Sponsorship Opportunity Available)

2:30 AI Transformation Unleashed: From Concept to Reality—A Pharma Blueprint

Murtaza Cherawala, Senior Director, IT Data Management, Analytics and Artificial Intelligence, Alnylam Pharmaceuticals, Inc.

Alnylam Pharmaceuticals, a leader in RNAi-based medicines, leverages GenAI to drive innovation and accelerate the development of groundbreaking therapies. By strategically integrating GenAI across functions, Alnylam bolsters its core capabilities and strategically positions itself to harness AI as a force multiplier. Gain practical insights on Alnylam's successful AI journey from aligning executives around AI goals, establishing governance, identifying and prioritizing high-impact use cases, developing and deploying a comprehensive AI roadmap.

3:00 Know Your Audits: Using LLMs to Mitigate Risk and Enhance Pharma Supply Chain and Manufacturing Resilience

Achal Dixit, Data Scientist III, Innovation & Digital Health, Bristol Myers Squibb India

This talk presents a framework that utilizes GenAI and LLMs to identify key risk factors for large-scale pharmaceutical manufacturers. By correlating insights from internal and external audit data, the framework enhances competitive intelligence and strengthens supply chain risk mitigation, ultimately improving manufacturing site resilience. LLMs enable rapid, scalable analysis that surpasses traditional methods, delivering significant cost and time savings through their efficient parsing of vast data volumes and improved vectorization.

3:30 Revolutionizing Drug Discovery with Generative AI

Petrina Kamya, PhD, Global Head of AI Platforms & Vice President, Insilico Medicine; President, Insilico Medicine Canada

The traditional drug discovery process is lengthy, costly, and fraught with failure, with development often taking over a decade and costing billions. This talk will explore how generative AI is transforming this paradigm through Insilico Medicine's innovative machine learning platform, enabling novel target identification, small molecule design, and clinical trial prediction. Discover how generative AI is accelerating drug development and reshaping the future of medicine.

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GENERATIVE AI

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9:45 Coffee Break in the Exhibit Hall with Poster Competition Winners Announced (Sponsorship Opportunity Available)

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10:30 Organizer's Remarks

ADVANCED DATA CATALOGING FOR ACCELERATED RESEARCH

10:35 Chairperson's Remarks (Sponsorship Opportunity Available)

10:40 Automating Cell Therapy Multi-Modal Ontology Construction and Data Cataloging with RAG+ & LLM

Jenny Wei, PhD, Senior Director, R&D Informatics and Technology, Kite Pharma

As a new therapeutic modality, cell therapy presents complex ontologies and meta-data as challenges and opportunities for the informatics community. Traditional SME-led manual curations and data annotations cannot keep up with the multi-modal data generation speed. Automating ontology enrichment with LLM-augmented named entity recognition (NER), and ontology-driven RAG for meta-data cataloging is leading scientists to a much faster data-to-insights journey.

11:10 Presentation to be Announced

12:10 pm Presentation to be Announced (Sponsorship Opportunity Available)

1:10 Session Break and Transition to Lunch

1:20 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

1:50 Refreshment Break in the Exhibit Hall with Last Chance for Poster Viewing (Sponsorship Opportunity Available)

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DRIVING AI INNOVATION: BEST PRACTICES FOR IMPLEMENTATION IN BIOPHARMA

2:30 Chairperson's Remarks (Sponsorship Opportunity Available)

2:35 Unlocking AI Potential: Best Practices for Implementation and Management

Vinod Das, Associate Director, Bayer Pharmaceuticals
Petrina Kamyra, PhD, Global Head of AI Platforms & Vice President, Insilico Medicine; President, Insilico Medicine Canada
Srivatsan Nagaraja, Founder, Vidya Seva

As AI transforms drug discovery, development, and precision medicine, understanding the business operations behind these advancements is essential. This session will cover critical aspects such as AI tool selection, project scoping, budget management, and prioritization amid evolving regulations. Hear real-world case studies on successful AI deployment, with strategies to navigate regulatory risks while ensuring cost-effectiveness. Join us for a dynamic discussion to harness AI's full potential in life sciences innovation.

4:05 Close of Conference

The Bio-IT conference is a great conference for us, it enables us to get face to face with all of our customers as well as prospects, partners, and other organizations that have a similar goal creating the lab of the future in the direction of where the company in the industry wants to go.

MICHAEL JURON, SALES LEADER, BENCLING



AI FOR DRUG DISCOVERY & DEVELOPMENT

Accelerate Drug Discovery and Development with AI-Driven Efficiency

WEDNESDAY, APRIL 2

8:00 am Registration Open

9:00 Recommended Pre-Conference Workshops and Symposia*

On Wednesday, April 2, 2025, Cambridge Healthtech Institute is pleased to offer five pre-conference Workshops scheduled across two time slots (9:00 am–12:00 pm and 1:15–4:15 pm) and three Symposia from 9:00 am–4:20 pm. All are designed to be instructional, interactive, and provide in-depth information on a specific topic. They allow for one-on-one interaction and provide a great way to explain more technical aspects that would otherwise not be covered during the main conference tracks that take place Thursday–Friday.

*Separate registration required. See details on the Symposia here and details on the Workshops here.

4:40 Organizer's Remarks



Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners

Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

Generative AI has the potential to transform life sciences and deliver unprecedented insights, automation, and efficiency. But is it? This panel brings leaders from biopharma, healthcare, and emerging tech who are leveraging AI to advance drug discovery, diagnostics, and patient care. Panelists will present case studies, sharing real-world applications and how they've navigated technical and cultural challenges. Look beyond the hype to discover the technology's current impact and future opportunities.

6:10 Welcome Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)



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7:25 Close of Day

THURSDAY, APRIL 3

7:00 am Registration Open

8:00 Organizer's Remarks



Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

8:05 Presentation to be Announced



AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

This presentation delves into how advanced deep learning models analyze vast molecular libraries to identify potential antibiotic compounds with remarkable speed and precision. Highlighting recent breakthroughs and real-world applications, Dr. Collins will discuss AI's transformative potential to address antibiotic resistance and open new pathways for therapeutics.



8:45 PLENARY KEYNOTE PRESENTATION: Generative AI, Aging Research and Robotics as a Platform for Drug Discovery: From Hype to Clinical Efficacy

Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

9:15 Session Q&A

9:30 Coffee Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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10:15 Organizer's Welcome Remarks

AI AND DATA INTEGRATION FOR ENHANCED R&D

10:20 Chairperson's Remarks

Speaker to be Announced, Hewlett Packard Enterprise HPE



10:25 Unleashing Innovation: Harnessing AI and Data Platforms for R&D

Bridget Behringer, Oncology E2E Business Partner Lead, R&D IT, AstraZeneca Pharmaceuticals

This presentation explores how AI and data platforms can enhance the landscape of research and development, with an ultimate goal to reduce timelines, increase probability of success, and better predict which patients are most likely to benefit from our medicines. We will describe the robust data foundation we have built and the prerequisites for deploying AI at scale.

10:45 Tech-Enhanced Preclinical Animal Logistics for Accelerated Drug Development

Ritesh Kumar, Senior Principal & Scientific Lead, Business Engagement & Info Products & Data Sciences, Novartis BioMedical Research

This talk focuses on optimizing the logistical processes of preclinical animal studies through technology, including aspects of improved data management, tracking systems, or automation in animal handling, all aimed at speeding up the early stages of drug development.

11:05 Causal AI & Mechanostics—Increasing Probability of R&D Success from Concept to Clinic

Simon Beulah, Senior Vice President, Healthcare & Head of US Operations, PrecisionLife

This presentation will explore how Causal AI and mechanistic patient stratification enhance R&D success in precision medicine, focusing on complex, chronic diseases. Attendees will learn how these technologies drive the discovery of personalized treatments and innovative diagnostics for unmet medical needs. We'll discuss strategies for identifying novel targets aligned with patient biology, designing faster, more successful clinical trials, and connecting patients to effective therapies based on their



AI FOR DRUG DISCOVERY & DEVELOPMENT

Accelerate Drug Discovery and Development with AI-Driven Efficiency

disease mechanisms.

11:25 DrugX: Artificial Intelligence-Based Platform for Drug Repurposing

Kamal Rawal, PhD, Professor and Head, Center for Computational Biology and Bioinformatics, Amity University

Drug repurposing offers a rapid, cost-effective approach to identify new uses for existing drugs. Our study introduces a multimodal pipeline that analyzes 4,136 drug targets and 24,554 interactions using tools like Cell Designer, Cytoscape, and DrugX. This AI-driven platform, with 11 specialized modules, creates comprehensive networks (e.g., Drug-CoV, Drug-Side-Effect), systematically ranking and evaluating candidates, predicting properties, and enhancing drug selection across various therapeutic areas.

11:45 Session Q&A with Speakers

11:55 Presentation to be Announced

12:10 pm Presentation to be Announced

12:25 Presentation to be Announced

12:55 Session Break and Transition to Lunch

1:05 Luncheon Presentation to be Announced

1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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AI-DRIVEN TARGET DISCOVERY AND OPTIMIZATION

2:25 Chairperson's Remarks (Sponsorship Opportunity Available)

2:30 Active Learning for Efficient Target Discovery

Evan Maltz, PhD, Biological Data Scientist, Tessel Biosciences

Tessellogic is a new active learning framework that accelerates target discovery across disease models, from cancer cell lines to patient-derived cultures. It identifies top targets with just 3% of the cost and effort of genome-wide screening. We've applied this approach to lung disease discovery in house and benchmarked it on >1,000 screens from the BioGRID ORCS database across 31 tissues of origin.

2:50 Living in Uncertainty: Applying Active Learning to Drug Discovery

Kian Tan, PhD, Director, Novartis Institutes for BioMedical Research (NIBR)

The SynTech group at Novartis focuses on leveraging synthesis and technology to impact drug discovery. This talk will illustrate our application of automation and machine learning to accelerate the design-make-test-analyze cycle. Particular emphasis will be placed on how we utilize models and active learning techniques in molecular design, as well as our efforts to democratize these tools within the medicinal chemistry community.

3:10 Using AI and Absolute Binding Free Energy Calculations to Predict the Binding Modes and Affinities of Protein-protein Inhibitors

Léa El Khoury, PhD, Group Leader – Computational Chemistry, Qubit Pharmaceuticals

A key challenge in drug discovery is designing compounds that bind with high affinity to a target protein. This talk demonstrates how absolute binding free energy calculations can predict protein-ligand affinities during hit identification and optimization phases. Machine learning predictions are also performed to predict small molecules properties. Using physics-based methods and AI models, we describe our approach to identifying and optimizing small molecules targeting novel protein-protein interfaces.

3:30 Accelerating Drug Discovery and Biomarker Mapping through the Convergence of Quantum Computing and AI

Christopher Lundy, Senior Principal Enterprise Architect, Chief Quantum AI Officer, FindInfinite Labs

This presentation explores the revolutionary potential of merging quantum computing with AI in biopharma, transforming drug discovery and biomarker mapping. By harnessing quantum computing's power, AI's predictive abilities, and a new biological framework from FindInfinite Labs, we aim to surpass current biological computation limits. This integration accelerates new therapy development and deepens our understanding of life's complexity through advanced predictive and quantum AI models.

3:50 Session Q&A with Speakers

4:00 Presentation to be Announced

4:30 Best of Show Awards Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)



Unwind with colleagues at our lively reception! Explore posters, vote for the best, network with exhibitors, enjoy a drink, and try to win a raffle prize. Celebrate Best of Show winners!

5:45 Close of Day

FRIDAY, APRIL 4

7:00 am Registration Open

7:00 Quick Bytes & Networking Breakfast—Lifted Rooftop Restaurant & Bar (Sponsorship Opportunity Available)

Start your morning with 'Quick Bytes & Networking'! Enjoy a cozy restaurant-style setting, quick bites, and speed networking. Connect, converse, and energize your Bio-IT experience before the plenary keynote!



8:00 Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute



8:05 Innovative Practices Awards: Excellence in Technological Innovation

Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

The Innovative Practices Awards recognizes and celebrates technology innovation in the life sciences. Bio-IT World is now accepting entries for the 2025 awards, recognizing partnerships and projects pushing our industry forward. Winners will be announced in mid-March 2025, acknowledged during the April 4 Plenary Keynote, and invited to present their work at the conference. For more information and to apply, visit www.bioitworldexpo.com/innovativepractices.

8:20 Presentation to be Announced



ADVANCING DRUG DISCOVERY AND HEALTHCARE THROUGH DATA-DRIVEN INNOVATION: FROM GENOMICS TO THERAPEUTICS



8:30 PLENARY KEYNOTE PRESENTATION: Scaling Genomic Medicine: Transforming Newborn Screening through Informatics and Innovation

Robert C. Green, MD, MPH, Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School

The BabySeq Project has pioneered the integration of genomic sequencing into newborn and childhood screening, uncovering unexpected risk variants and transforming healthcare delivery. This keynote explores the groundbreaking progress in genomic medicine,



AI FOR DRUG DISCOVERY & DEVELOPMENT

Accelerate Drug Discovery and Development with AI-Driven Efficiency

featuring real-world stories of families impacted by these discoveries. Learn about the informatics challenges and innovative solutions required to scale genomic screening for national and global implementation, reshaping the future of precision medicine.



9:00 PLENARY KEYNOTE PRESENTATION: Unlocking the Power of Machine Learning and Data-at-Scale to Deliver with Speed the Best Therapeutic Candidates

Justin M. Scheer, PhD, Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine

The challenges of high costs, lengthy timelines, and attrition have prompted our industry to integrate AI/ML into all aspects of the business. This presentation highlights J&J's strategic investments in AI/ML technologies to enhance drug discovery processes, including molecule design and optimization. By investing in these technologies with a modality-agnostic approach, J&J aims to tackle the hardest targets in drug discovery, ultimately increasing the success rate of delivering better molecules faster.

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10:30 Organizer's Remarks

INNOVATIONS IN AI FOR DRUG DISCOVERY: FROM PATENTS TO BIOMOLECULAR TARGETS

10:35 Chairperson's Remarks

Christopher Southan, PhD, Honorary Professor, Deanery of Biomedical Sciences, University of Edinburgh

10:40 Mining the First Fruits of AI Drug Discovery from Patents

Christopher Southan, PhD, Honorary Professor, Deanery of Biomedical Sciences, University of Edinburgh

This presentation explores how AI-centric drug discovery companies are advancing lead molecules to clinical trials and revealing novel chemical series in patents. Using open-source tools, we mined key patent filings from companies like Exscientia, BenevolentAI, Atomwise, and Insilico Medicine. The analysis maps AI-generated compounds into PubChem, providing insights into their chemical and target novelty, offering a snapshot of the actual data emerging from AI-driven drug discovery efforts.

11:00 PatentMiner: AI-Powered Tool for Efficient Large-Scale Patent Data Extraction

Dimitar Yonchev, PhD, Data Engineer, Roche

PatentMiner is an AI-powered tool designed for efficient extraction of tables and free text from pharma and biotech patents, addressing the complexities of IP documents. This modular Python package uses advanced OCR, uncertainty estimates, multimodal LLM-based and rule-based error correction, and automated post-processing. Its user-friendly interface also allows for manual review. PatentMiner has significantly reduced extraction time in early oligonucleotide projects, improving accuracy of both structured and unstructured data retrieval.

11:20 Unlocking the Potential of AI for High-Throughput Immunotherapy Drug Discovery through RNA Splicing

Alyssa Fronk, PhD, Director of Computational Biology, Computational Biology, Envisagenics, Inc.

Envisagenics' SpliceCore platform leverages advanced AI to accelerate immunotherapy drug discovery by identifying novel, tumor-specific epitopes arising through RNA splicing. This innovative approach focuses on splicing

events that drive tumor progression and generate new therapeutic targets. Supported by comprehensive case studies and experimental validation, SpliceCore demonstrates robust predictive capabilities, offering a powerful tool for discovering safe, highly specific epitopes. SpliceCore represents a significant advancement in the development of next-generation immunotherapies.

11:40 RNA-Based Drugs Targeting an Evolutionarily Young Long Non-Coding RNA Discovered from GWAS Have the Potential to Replace Insulin and GLP-1 Agonists in a Nonhuman-Primate Model

Leonard Lipovich, PhD, Department of Biology, College of Science, Mathematics, and Technology, Wenzhou-Kean University; Shenzhen Huayuan Biological Science Research Institute, Shenzhen Huayuan Biotechnology Co. Ltd.; Center for Molecular Medicine and Genetics, School of Medicine, Wayne State University

This talk presents groundbreaking research on RNA-based drugs targeting an evolutionarily young long non-coding RNA (lncRNA) identified through GWAS. These innovative therapeutics demonstrate the potential to replace insulin and GLP-1 agonists in managing diabetes within a nonhuman primate model. The talk highlights the discovery process, therapeutic mechanism, and translational significance of lncRNA-targeted drugs, offering a novel approach to treating metabolic disorders and advancing precision medicine.

12:00 pm Session Q&A with Speakers

12:10 Presentation to be Announced (Sponsorship Opportunity Available)

12:40 Strategic Implementation of LLM Technology Enhances Internal Operations in Pharma and Biotech R&D



Yuriy Gankin, Principal & CSO, Quantori

Large volumes of information in biomedicine pose challenges, yet are essential. Efficiently using data throughout drug development is resource-intensive. Employing LLMs can automate data analysis and potentially lead to new insights. This presentation will outline methods for using LLMs to derive insights from molecular and textual data in biomedicine. We'll also discuss how LLM advancements are reshaping workflows in pharmaceutical and biotech firms, and their impact on drug development.

1:10 Session Break and Transition to Lunch

1:20 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

1:50 Refreshment Break in the Exhibit Hall with Last Chance for Poster Viewing (Sponsorship Opportunity Available)

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4:05 Close of Conference



AI FOR ONCOLOGY, PRECISION MEDICINE & HEALTH

Optimize Access and Analysis of Multiomics Real-World Data

WEDNESDAY, APRIL 2

8:00 am Registration Open

9:00 Recommended Pre-Conference Workshops and Symposia*

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Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners

Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

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6:10 Welcome Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)



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7:25 Close of Day

THURSDAY, APRIL 3

7:00 am Registration Open

8:00 Organizer's Remarks



Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

8:05 Presentation to be Announced



AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

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10:15 Organizer's Welcome Remarks

ADVANCES IN AI-DRIVEN BIOINFORMATICS: INTEGRATIVE GENOMIC ANALYSIS FOR PRECISION MEDICINE AND ONCOLOGY

10:20 Chairperson's Remarks

Jeffrey A. Rosenfeld, PhD, President, Rosenfeld Consulting

10:25 Empowering Precision Medicine with VarSeq: A Comprehensive Platform for Genomic Analysis

Andreas Scherer, PhD, President and CEO, Golden Helix, Inc.

This presentation highlights Golden Helix VarSeq's advanced genomic analysis capabilities, including precise CNV calling for whole exome sequencing, long-read support with allele phasing, and VSPGx for pharmacogenomics, adhering to CPIC and FDA standards. We will discuss benchmark data, case studies, and VarSeq's "Bring Your Own Cloud" capability for deployment on AWS, Azure, Google Cloud, or on-premises, making it a versatile tool for precision medicine.

10:55 CAMP (The Core Analysis Modular Pipeline): Software Design for Integrative Exploration of Large Metagenomics Datasets

Iman Hajirasouliha, PhD, Associate Professor and Co-Director of the Tri-Institutional Computational Biology and Medicine PhD Program, Joan & Sanford I. Weill Medical College of Cornell University

Computational analysis of large-scale metagenomics sequencing datasets has proved to be both incredibly valuable for extracting isolate-level taxonomic and functional insights from complex microbial communities. One-click pipelines have organized these tools into targeted workflows, but they suffer from general compatibility and maintainability. We present a module-based metagenomics analysis system. Each module can be run independently or conjointly with others to produce the target data format and outputs aggregated summary statistics reports.



AI FOR ONCOLOGY, PRECISION MEDICINE & HEALTH

Optimize Access and Analysis of Multiomics Real-World Data

11:25 Advancing Comprehensive and Accurate Secondary Analysis for Long and Short Read Data Integration

Brendan Gallagher, Head, Business Development, Sentieon, Inc.

New "hybrid" secondary analysis pipeline combining 30x short-read sequencing and 10x PacBio HiFi sequencing resulting in possibly the most accurate genome analysis available. Benchmarking with a 30x NovaSeq and 10x HiFi coverage, we record only 5,909/1,665 total (SNP/indel) errors relative to the GIAB v4.2.1 HG002 truthset. The pipeline reduces variant calling errors by 74% compared to DeepVariant on 30x NovaSeq data and 26% relative to DV with 30x HiFi data.

11:55 Talk Title to be Announced

Radesh Pooranachandhiran, Senior Bioinformatician, Zifo Technologies, Inc.

Chran Suresh, Zifo Technologies, Inc.

12:10 pm Presentation to be Announced (Sponsorship Opportunity Available)

12:25 Presentation to be Announced

12:40 Presentation to be Announced (Sponsorship Opportunity Available)

12:55 Session Break and Transition to Lunch

1:05 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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UNLOCKING THE VALUE OF BIOMEDICAL DIGITAL TWINS: FROM CUTTING-EDGE TECHNOLOGIES IN BIOPHARMA R&D TO PERSONALIZED PATIENT CARE

2:25 Chairperson's Remarks

Eric Stahlberg, PhD, Director, Cancer Data Science Initiatives, Cancer Research Technology Program, Frederick National Laboratory for Cancer Research, Rockville, Maryland, USA

2:30 Unlocking the Value of Biomedical Digital Twins: From Cutting-Edge Technologies in BioPharma R&D to Personalized Patient Care

Douglas E. Kiehl, Senior Director, Disruptive & Transformative Technologies Team, Digital Twin COE, Eli Lilly & Co.

Andy Kilianski, PhD, Program Manager, Health Science Futures, ARPA-H

Eric Stahlberg, PhD, Director, Cancer Data Science Initiatives, Cancer Research Technology Program, Frederick National Laboratory for Cancer Research, Rockville, Maryland, USA

Digital twin technology, already transformative in aerospace and energy, holds vast potential in biopharmaceutical R&D and personalized healthcare. Integrating extensive biomedical data, AI innovations, and precision medicine, digital twins can advance disease prediction, optimize treatments, and improve oncology and patient outcomes. Gain valuable insights into applying digital twins and predictive models within oncology and biopharma, addressing technical and data-related challenges, emerging AI uses, and future pathways that prioritize patient-centered care.

4:00 Presentation to be Announced (Sponsorship Opportunity Available)

4:30 Best of Show Awards Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

Unwind with colleagues at our lively reception! Explore posters, vote for the best, network with exhibitors, enjoy a drink, and try to win a raffle prize. Celebrate Best of Show winners!

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FRIDAY, APRIL 4

7:00 am Registration Open

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Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute



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8:20 Presentation to be Announced

illumina®

ADVANCING DRUG DISCOVERY AND HEALTHCARE THROUGH DATA-DRIVEN INNOVATION: FROM GENOMICS TO THERAPEUTICS



8:30 PLENARY KEYNOTE PRESENTATION: Scaling Genomic Medicine: Transforming Newborn Screening through Informatics and Innovation

Robert C. Green, MD, MPH, Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School

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AI FOR ONCOLOGY, PRECISION MEDICINE & HEALTH

Optimize Access and Analysis of Multiomics Real-World Data



9:00 PLENARY KEYNOTE PRESENTATION: Unlocking the Power of Machine Learning and Data-at-Scale to Deliver with Speed the Best Therapeutic Candidates

Justin M. Scheer, PhD, Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine

The challenges of high costs, lengthy timelines, and attrition have prompted our industry to integrate AI/ML into all aspects of the business. This presentation highlights J&J's strategic investments in AI/ML technologies to enhance drug discovery processes, including molecule design and optimization. By investing in these technologies with a modality-agnostic approach, J&J aims to tackle the hardest targets in drug discovery, ultimately increasing the success rate of delivering better molecules faster.

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10:30 Organizer's Remarks

AI-DRIVEN INSIGHTS FOR TRANSLATIONAL HEALTH AND PRECISION MEDICINE: FROM IMAGE ANALYSIS TO MULTIOMICS AND CANCER DETECTION

10:35 Chairperson's Remarks

Yuval Itan, PhD, Associate Professor, Genetics & Genomic Sciences, Icahn School of Medicine at Mount Sinai

10:40 Integration of Multiomics with Digital Pathology

David W. Craig, PhD, Deputy Director, Professor & Chair, Integrative Translational Sciences, City of Hope National Medical Center

This talk delves into the integration of spatial transcriptomics and single-cell multiomics with digital pathology using advanced AI techniques, including vision transformers, to revolutionize data interpretation. By imputing hidden features and patterns from spatial transcriptomics, the presentation will showcase groundbreaking insights into cellular microenvironments and disease pathology, offering unprecedented resolution for precision medicine. Attendees will explore how combining these innovations accelerates advancements in oncology and health research.

11:10 Computer Vision for Osteoclast Image Analysis in Osteoporosis Research

Michael Wan, PhD, Research Scientist, Institute for Experiential AI, The Roux Institute, Northeastern University

In osteoporosis research, analyzing osteoclast cell images is vital but labor-intensive, relying on manual processing and expert input. We introduce a machine learning algorithm that automates this process, integrating nuclear data and addressing domain shift between mouse and human data. This talk will highlight how AI and computer vision techniques can overcome challenges in translational research, enhancing drug discovery and development. Initial findings were presented at the 2024 CVPR conference.

11:40 Gastric Cancer Detection with Ensemble Learning on Digital Pathology: Use Case of Gastric Cancer on GasHisSDB Dataset

Saeed Amal, PhD, Research Prof, Bioengineering Department, The Roux Institute and The Institute for Experiential AI, Northeastern University

This work utilizes ensemble deep-learning models that mix different deep-learning architectures to improve classification performance for stomach cancer diagnosis. Using the Gastric Histopathology Sub-Size Images Database, the ensemble models obtained an average accuracy of more than 99% at various resolutions. ResNet50, VGGNet, and ResNet34 performed better than EfficientNet and ViTNet, with the ensemble model continuously delivering higher accuracy.

12:10 pm Presentation to be Announced

12:40 Presentation to be Announced (Sponsorship Opportunity Available)

VELSERA

1:10 Session Break and Transition to Lunch

1:20 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

1:50 Refreshment Break in the Exhibit Hall with Last Chance for Poster Viewing (Sponsorship Opportunity Available)

Feeling tired? Recharge during the final Networking Exhibit Hall break! Visit booths, explore posters, connect with peers, and turn in your Game Cards for a chance to win a raffle prize.

DRIVING AI INNOVATION: BEST PRACTICES FOR IMPLEMENTATION IN BIOPHARMA

2:30 Chairperson's Remarks (Sponsorship Opportunity Available)

2:35 Unlocking AI Potential: Best Practices for Implementation and Management

Vinod Das, Associate Director, Bayer Pharmaceuticals

Petrina Kamyra, PhD, Global Head of AI Platforms & Vice President, Insilico Medicine; President, Insilico Medicine Canada

Srivatsan Nagaraja, Founder, Vidya Seva

As AI transforms drug discovery, development, and precision medicine, understanding the business operations behind these advancements is essential. This session will cover critical aspects such as AI tool selection, project scoping, budget management, and prioritization amid evolving regulations. Hear real-world case studies on successful AI deployment, with strategies to navigate regulatory risks while ensuring cost-effectiveness. Join us for a dynamic discussion to harness AI's full potential in life sciences innovation.

4:05 Close of Conference

WEDNESDAY, APRIL 2

8:00 am Registration Open

9:00 Recommended Pre-Conference Workshops and Symposia*

On Wednesday, April 2, 2025, Cambridge Healthtech Institute is pleased to offer five pre-conference Workshops scheduled across two time slots (9:00 am–12:00 pm and 1:15–4:15 pm) and three Symposia from 9:00 am–4:20 pm. All are designed to be instructional, interactive, and provide in-depth information on a specific topic. They allow for one-on-one interaction and provide a great way to explain more technical aspects that would otherwise not be covered during the main conference tracks that take place Thursday–Friday.

*Separate registration required. See details on the Symposia here and details on the Workshops here.

4:40 Organizer's Remarks



Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners

Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

Generative AI has the potential to transform life sciences and deliver unprecedented insights, automation, and efficiency. But is it? This panel brings leaders from biopharma, healthcare, and emerging tech who are leveraging AI to advance drug discovery, diagnostics, and patient care. Panelists will present case studies, sharing real-world applications and how they've navigated technical and cultural challenges. Look beyond the hype to discover the technology's current impact and future opportunities.

6:10 Welcome Reception in the Exhibit Hall with Poster Viewing  (Sponsorship Opportunity Available)

The Bio-IT Kickoff Reception is a reunion—reconnect with friends, explore cutting-edge research, and celebrate innovation! Enjoy poster presentations, networking, and vote for the Best of Show and Poster awards.

7:25 Close of Day

THURSDAY, APRIL 3

7:00 am Registration Open

8:00 Organizer's Remarks



Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

8:05 Presentation to be Announced



AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

This presentation delves into how advanced deep learning models analyze vast molecular libraries to identify potential antibiotic compounds with remarkable speed and precision. Highlighting recent breakthroughs and real-world applications, Dr. Collins will discuss AI's transformative potential to address antibiotic resistance and open new pathways for therapeutics.



8:45 PLENARY KEYNOTE PRESENTATION: Generative AI, Aging Research and Robotics as a Platform for Drug Discovery: From Hype to Clinical Efficacy

Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

9:15 Session Q&A

9:30 Coffee Break in the Exhibit Hall with Poster Viewing

(Sponsorship Opportunity Available)

Start your morning with coffee, connections, and cutting-edge research! Enjoy poster presentations, network in the Exhibit Hall, vote for awards, and a chance at a fabulous raffle prize!

10:15 Organizer's Welcome Remarks

ADVANCES IN AI-DRIVEN BIOINFORMATICS: INTEGRATIVE GENOMIC ANALYSIS FOR PRECISION MEDICINE AND ONCOLOGY

10:20 Chairperson's Remarks

Jeffrey A. Rosenfeld, PhD, President, Rosenfeld Consulting

10:25 Empowering Precision Medicine with VarSeq: A Comprehensive Platform for Genomic Analysis

Andreas Scherer, PhD, President and CEO, Golden Helix, Inc.

This presentation highlights Golden Helix VarSeq's advanced genomic analysis capabilities, including precise CNV calling for whole exome sequencing, long-read support with allele phasing, and VSPGx for pharmacogenomics, adhering to CPIC and FDA standards. We will discuss benchmark data, case studies, and VarSeq's "Bring Your Own Cloud" capability for deployment on AWS, Azure, Google Cloud, or on-premises, making it a versatile tool for precision medicine.

10:55 CAMP (The Core Analysis Modular Pipeline): Software Design for Integrative Exploration of Large Metagenomics Datasets

Iman Hajirasouliha, PhD, Associate Professor and Co-Director of the Tri-Institutional Computational Biology and Medicine PhD Program, Joan & Sanford I. Weill Medical College of Cornell University

Computational analysis of large-scale metagenomics sequencing datasets has proved to be both incredibly valuable for extracting isolate-level taxonomic and functional insights from complex microbial communities. One-click pipelines have organized these tools into targeted workflows, but they suffer from general compatibility and maintainability. We present a module-based metagenomics analysis system. Each module can be run independently or conjointly with others to produce the target data format and outputs aggregated summary statistics reports.

01001
101100
01011**BIOINFORMATICS**

Transform Extensive Data into Actionable Insights with Advanced Computational Tools for Pharma R&D

11:25 Advancing Comprehensive and Accurate Secondary Analysis for Long and Short Read Data Integration*Brendan Gallagher, Head, Business Development, Sentieon, Inc.*

New "hybrid" secondary analysis pipeline combining 30x short-read sequencing and 10x PacBio HiFi sequencing resulting in possibly the most accurate genome analysis available. Benchmarking with a 30x NovaSeq and 10x HiFi coverage, we record only 5,909/1,665 total (SNP/indel) errors relative to the GIAB v4.2.1 HG002 truthset. The pipeline reduces variant calling errors by 74% compared to DeepVariant on 30x NovaSeq data and 26% relative to DV with 30x HiFi data.

11:55 Talk Title to be Announced*Radesh Pooranachandhiran, Senior Bioinformatician, Zifo Technologies, Inc.**Chran Suresh, Zifo Technologies, Inc.***12:10 pm Presentation to be Announced (Sponsorship Opportunity Available)****12:25 Presentation to be Announced****12:40 Presentation to be Announced (Sponsorship Opportunity Available)****12:55 Session Break and Transition to Lunch****1:05 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own****1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)**

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INNOVATIVE PLATFORMS IN BIOINFORMATICS: ADVANCING DATA INTEGRITY AND WORKFLOW OPTIMIZATION**2:25 Chairperson's Remarks (Sponsorship Opportunity Available)****2:30 TakOmics: A FAIR Multi-Omics Data Management and Analytics Platform***Felix Francis, PhD, Sr Mgr, Data Mgmt & Analytics, Data Sciences Institute, Takeda*

We present TakOmics, a FAIR multi-omics data management and analytics platform designed to meet the intricate demands of omics data workflows. TakOmics automates data transfers, centralizes management, and establishes a data steward role to maintain data integrity and ownership. Role-based access control enhances security and compliance, while expanded bioinformatics capabilities streamline pipeline development. The platform also simplifies validation in GxP-compliant settings, supporting seamless and secure data operations.

3:00 Data-Driven Modeling vs. Model-Driven Data Analytics: A Paradigm Shift in Women's Health*Anastasia Christianson, PhD, Pharma Industry Data Science Leader**Michael Liebman, PhD, Managing Director, IPQ Analytics, LLC*

Big Data and AI/ML methods are revolutionizing drug development, disease diagnosis, and treatment by identifying patterns within integrated datasets. However, these methods often rely on initial models that shape what data is collected, potentially limiting discovery. Model-driven data analytics reverses this process, identifying gaps in existing datasets and resolving conflicts. This presentation explores how this innovative approach is driving new data collection to address complex issues in women's health.

4:00 Presentation to be Announced (Sponsorship Opportunity Available)**4:30 Best of Show Awards Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)**

Unwind with colleagues at our lively reception! Explore posters, vote for the best, network with exhibitors, enjoy a drink, and try to win a raffle prize. Celebrate Best of Show winners!

5:45 Close of Day**FRIDAY, APRIL 4****7:00 am Registration Open****7:00 Quick Bytes & Networking Breakfast—Lifted Rooftop Restaurant & Bar (Sponsorship Opportunity Available)**

Start your morning with 'Quick Bytes & Networking'! Enjoy a cozy restaurant-style setting, quick bites, and speed networking. Connect, converse, and energize your Bio-IT experience before the plenary keynote!

**8:00 Organizer's Remarks***Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute***8:05 Innovative Practices Awards: Excellence in Technological Innovation***Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News*

The Innovative Practices Awards recognizes and celebrates technology innovation in the life sciences. Bio-IT World is now accepting entries for the 2025 awards, recognizing partnerships and projects pushing our industry forward. Winners will be announced in mid-March 2025, acknowledged during the April 4 Plenary Keynote, and invited to present their work at the conference. For more information and to apply, visit www.bioitworldexpo.com/innovativepractices.

8:20 Presentation to be Announced**illumina****ADVANCING DRUG DISCOVERY AND HEALTHCARE THROUGH DATA-DRIVEN INNOVATION: FROM GENOMICS TO THERAPEUTICS****8:30 PLENARY KEYNOTE PRESENTATION: Scaling Genomic Medicine: Transforming Newborn Screening through Informatics and Innovation***Robert C. Green, MD, MPH, Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School*

The BabySeq Project has pioneered the integration of genomic sequencing into newborn and childhood screening, uncovering unexpected risk variants and transforming healthcare delivery. This keynote explores the groundbreaking progress in genomic medicine, featuring real-world stories of families impacted by these discoveries. Learn about the informatics challenges and innovative solutions required to scale genomic screening for national and global implementation, reshaping the future of precision medicine.

**9:00 PLENARY KEYNOTE PRESENTATION: Unlocking the Power of Machine Learning and Data-at-Scale to Deliver with Speed the Best Therapeutic Candidates**

Justin M. Scheer, PhD, Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine

The challenges of high costs, lengthy timelines, and attrition have prompted our industry to integrate AI/ML into all aspects of the business. This presentation highlights J&J's strategic investments in AI/ML technologies to enhance drug discovery processes, including molecule design and optimization. By investing in these technologies with a modality-agnostic approach, J&J aims to tackle the hardest targets in drug discovery, ultimately increasing the success rate of delivering better molecules faster.

9:30 Session Q&A**9:45 Coffee Break in the Exhibit Hall with Poster Competition Winners Announced** *(Sponsorship Opportunity Available)*

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10:30 Organizer's Remarks**AI-ENHANCED BIOINFORMATICS: CLOUD-POWERED PLATFORMS AND OPEN-SOURCE TOOLS FOR ADVANCING DRUG DISCOVERY AND PUBLIC HEALTH****10:35 Chairperson's Remarks** *(Sponsorship Opportunity Available)***10:40 OSPREY, an Open Science Platform for Better Decision-Making in Public Health**

Brigitte E. Raumann, Product Manager, University of Chicago, Globus

The COVID-19 pandemic necessitated unprecedented scientific collaboration, leveraging relationships among domain experts, mathematical modelers, and scientific computing specialists to inform public health decisions. Among the myriad outcomes from this collaboration is OSPREY, an open science platform for robust epidemic analysis. We will describe the development and use of the OSPREY prototype and work planned to make it a public resource for epidemiologic modeling and analysis.

11:10 Innovating Drug Discovery with Cloud-Powered Cryo-EM and Structural Biology Tools

Piotr Sliz, PhD, Associate Professor & Vice President & Chief Research Information Officer, Biological Chemistry & Molecular Pharmacology, Harvard Medical School

Harvard Medical School, in collaboration with AWS, has developed a scalable, cloud-powered Cryo-EM infrastructure using SBCGrid's suite of 400+ structural biology tools. This innovative approach enables widespread access to high-performance computing for drug discovery, democratizing advanced data analysis across academic, public sector, and biopharma institutions. By deploying this technology at underfunded research centers, like Meharry Medical College, this initiative enables breakthroughs in drug discovery and ultimately new treatments for patients.

11:40 An Open-Source Platform for Quantitative Interactomics

Julian West, Graph Database Architect, AbbVie, Inc.

Advances in Power Computing have been tightly-coupled with applications such as AI, but not so much with Dynamical Modeling for Systems Biology. We want to put to good use the Long Attention Span of open-source development, for an ambitious project meant to grow alongside advances in power computing and in interactomics data.

12:10 pm Presentation to be Announced *(Sponsorship Opportunity Available)***1:10 Session Break and Transition to Lunch****1:20 Luncheon Presentation** *(Sponsorship Opportunity Available)* or **Enjoy Lunch on Your Own****1:50 Refreshment Break in the Exhibit Hall with Last Chance for Poster Viewing** *(Sponsorship Opportunity Available)*

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DRIVING AI INNOVATION: BEST PRACTICES FOR IMPLEMENTATION IN BIOPHARMA**2:30 Chairperson's Remarks** *(Sponsorship Opportunity Available)***2:35 Unlocking AI Potential: Best Practices for Implementation and Management**

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Petrina Kamyra, PhD, Global Head of AI Platforms & Vice President, Insilico Medicine; President, Insilico Medicine Canada

Srivatsan Nagaraja, Founder, Vidya Seva

As AI transforms drug discovery, development, and precision medicine, understanding the business operations behind these advancements is essential. This session will cover critical aspects such as AI tool selection, project scoping, budget management, and prioritization amid evolving regulations. Hear real-world case studies on successful AI deployment, with strategies to navigate regulatory risks while ensuring cost-effectiveness. Join us for a dynamic discussion to harness AI's full potential in life sciences innovation.

4:05 Close of Conference



PHARMACEUTICAL R&D INFORMATICS

Drive Precision Medicine through the Digitalization of Pharma R&D

WEDNESDAY, APRIL 2

8:00 am Registration Open

9:00 Recommended Pre-Conference Workshops and Symposia*

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4:40 Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners

Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

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7:25 Close of Day

THURSDAY, APRIL 3

7:00 am Registration Open



8:00 Organizer's Remarks

Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

8:05 Presentation to be Announced



AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

This presentation delves into how advanced deep learning models analyze vast molecular libraries to identify potential antibiotic compounds with remarkable speed and precision. Highlighting recent breakthroughs and real-world applications, Dr. Collins will discuss AI's transformative potential to address antibiotic resistance and open new pathways for therapeutics.



8:45 PLENARY KEYNOTE PRESENTATION: Generative AI, Aging Research and Robotics as a Platform for Drug Discovery: From Hype to Clinical Efficacy

Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

9:15 Session Q&A

9:30 Coffee Break in the Exhibit Hall with Poster Viewing

(Sponsorship Opportunity Available)

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10:15 Organizer's Welcome Remarks

DRIVING CHANGE THROUGH SIMPLIFIED SYSTEM LANDSCAPES: FINDING VALUE BEYOND THE HYPE

10:20 Chairperson's Remarks (Sponsorship Opportunity Available)

10:25 Too Many Clunky Systems? How to Successfully Manage Size, Complexity, and Cost of Your Pharma R&D System Landscape

Angelika Fuchs, Chapter Lead Data Products and Platforms, pRED Data & Analytics, Roche Diagnostics GmbH

In this talk, ongoing efforts and learnings around system landscape consolidation at Roche will be presented. On the example of molecule registration systems, concrete recommendations will be summarized on how to approach the assessment and implementation of consolidating a specific business capability. At the same time, wrong assumptions, potential pitfalls around landscape harmonization will be shared with the audience.

10:55 Architecture as the Driver of System Change—And a Lesson in Change Management

Anthony Rowe, PhD, Head, Technology—Global Scientific IT, Johnson & Johnson Technology

11:25 PANEL DISCUSSION: Pharma Knowledge Graphs and Large Language Models: How Semantic Is Biomedical AI in 2025

Moderator: Tom Plasterer, PhD, Managing Director, Life Sciences Innovation, ExponentL Data

Synergies between language models and knowledge graphs are now common and practiced in many life science organizations. A new challenge—optimizing where AI excels while recognizing where humans should lead—has arisen. Semantics can bridge this gap, structured as FAIR data, materialized in knowledge graphs. We will debate the role of semantics and the “jagged



PHARMACEUTICAL R&D INFORMATICS

Drive Precision Medicine through the Digitalization of Pharma R&D

frontier of AI," touching upon Graph RAG, Agentic AI, and climbing the data-information-knowledge-wisdom pyramid.

Panelists:

Ben Busby, PhD, Director, Solution Science, DNAnexus, Inc.

Helena Deus, PhD, Lead for Semantic Data Products, Bristol Myers Squibb Co.

Brian Martin, Chief AI Product Owner, BTS; Head of AI, R&D Information Research; Senior Research Fellow, AbbVie, Inc.

11:55 Presentation to be Announced

12:25 pm Revolutionizing Drug Discovery Research with a Data-Driven SaaS Approach

Chris Stumpf, Director, Drug Discovery Informatics Solutions, Revvity Signals

This presentation explores how a new, cloud native SaaS platform enhances drug discovery by integrating the Make-Test-Decide R&D cycle into a single, user-friendly solution. By facilitating collaboration across diverse scientific domains and geographies, it enables researchers to discover hits and optimize lead compounds by simplifying the data-driven decision process. Learn how this comprehensive SaaS solution transforms drug development, streamlines workflows, and empowers researchers to focus more on science and less on disparate tools.

12:55 Session Break and Transition to Lunch

1:05 Luncheon Presentation to be Announced

1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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CROSS-DEPARTMENTAL DATA SHARING AND COLLABORATIVE PLATFORMS

2:25 Chairperson's Remarks (Sponsorship Opportunity Available)

2:30 Enabling Secondary Research with Clinical Trial Data: A Case Study in Cross-Departmental Data Harmonization

Radhesh Nair, Director, Data Science and Analytics, Clinical Development, AbbVie

This talk will discuss establishing the business value of pooling and sharing clinical study data across functions, as well as the impact of that data harmonization. We will explore how historical clinical trial data can be used to test hypotheses and generate insights, as well as address data privacy and ethics concerns.

3:00 BioRel's Data Infrastructure: A Scientific Schema and Exchange Standard to Transform and Enhance Biological Data Sciences

Jeremy Desaphy, PhD, Director Scientific Data & Informatics, Genetic Medicines, Eli Lilly & Company

BioRel's is an open-source fully tunable data preparation infrastructure processing 30 of the main drug discovery resources. We will present this infrastructure and its impact on Lilly Genetic Medicines drug design. We will also show how complex and heterogenous data can easily be shared between BioRel's systems and what the future can look like if we expand it as a community.

3:30 Target Gene Notebook: A Collaborative Platform for Pursuing Project Targets

Jennifer Heymont, PhD, Associate Director, Scientific Informatics, Eisai, Inc.

Eisai's Target Gene Notebook serves two primary functions. Firstly, it automates the collection of data from various informatics resources. Secondly, it offers a toolkit for subject-matter experts to compile and analyze this data, transforming it into actionable reports. These activities provide key genetic evidence for project target selection and safety evaluation.

4:00 Presentation to be Announced



4:30 Best of Show Awards Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

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5:45 Close of Day

FRIDAY, APRIL 4

7:00 am Registration Open

7:00 Quick Bytes & Networking Breakfast—Lifted Rooftop Restaurant & Bar (Sponsorship Opportunity Available)

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8:00 Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute



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Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

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8:20 Presentation to be Announced

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ADVANCING DRUG DISCOVERY AND HEALTHCARE THROUGH DATA-DRIVEN INNOVATION: FROM GENOMICS TO THERAPEUTICS



8:30 PLENARY KEYNOTE PRESENTATION: Scaling Genomic Medicine: Transforming Newborn Screening through Informatics and Innovation

Robert C. Green, MD, MPH, Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School

The BabySeq Project has pioneered the integration of genomic sequencing into newborn and childhood screening, uncovering unexpected risk variants and transforming healthcare delivery. This keynote explores the groundbreaking progress in genomic medicine, featuring real-world stories of families impacted by these discoveries. Learn about the informatics challenges and innovative solutions required to scale genomic screening for national and global implementation, reshaping the future of precision medicine.



PHARMACEUTICAL R&D INFORMATICS

Drive Precision Medicine through the Digitalization of Pharma R&D



9:00 PLENARY KEYNOTE PRESENTATION: Unlocking the Power of Machine Learning and Data-at-Scale to Deliver with Speed the Best Therapeutic Candidates

Justin M. Scheer, PhD, Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine

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10:30 Organizer's Remarks

THE LAB OF THE FUTURE: CASE STUDIES IN CREATING DECISION-MAKING OPPORTUNITIES IN REAL TIME

10:35 Chairperson's Remarks (Sponsorship Opportunity Available)

10:40 Secondary Use of Data: Can It Be Leveraged on a Global Scale?

Christina T. Lu, Executive Director & Global Head Data Curation & Integration, Pharma Development Data Sciences, Genentech, Inc.

11:10 Enabling Automated End-to-End Chromatographic Data Workflows and Accelerated Data Insights with the Allotrope Simple Model (ASM) Vendor-Neutral Data Format

W. Christopher Siegler, PhD, Associate Director, Technical Product Management, MRL IT, Merck

Today's R&D laboratory generates vast amounts of diverse data acquired with heterogeneous hardware and software solutions supplied by various vendors. The heterogeneity in vendor data formats and the need to connect data from multiple sources makes scientist daily workflows challenging. This presentation will demonstrate how Allotrope Simple Model (ASM) standardization of chromatographic data at scale simplifies technical architecture to improve scalability and creates transformative opportunities for on demand data consumption.

11:40 Unified Namespace for Preclinical Manufacturing & Process Development: An Industry 4.0 Digitalization Platform for Real-Time Automated Decision-Making

Matthew Conway, Data Engineering Lead, Preclinical Manufacturing & Process Development, Regeneron Pharmaceuticals

Angela Hill, Lead OT Data Manager, PMPD, Regeneron Pharmaceuticals, Inc.

The implementation of a hub-and-spoke Unified Namespace can simplify lateral and vertical system integrations across the data ecosphere, connecting applications to make data available when and where needed irrespective of source. By changing the way we connect systems and applications, we are realizing our vision of a highly connected plant where data-driven, automated decisions drive operations in real-time.

12:10 pm Presentation to be Announced

12:40 Presentation to be Announced

1:10 Session Break and Transition to Lunch

1:20 Luncheon Presentation (Sponsorship Opportunity Available) or Enjoy Lunch on Your Own

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2:30 Chairperson's Remarks (Sponsorship Opportunity Available)

2:35 Unlocking AI Potential: Best Practices for Implementation and Management

Vinod Das, Associate Director, Bayer Pharmaceuticals

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4:05 Close of Conference

L7 INFORMATICS

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DIGITALIZATION OF CLINICAL DEVELOPMENT

Collect and Transform Raw Data into Actionable Insights to Accelerate and Improve Clinical Outcomes

WEDNESDAY, APRIL 2

8:00 am Registration Open

9:00 Recommended Pre-Conference Workshops and Symposia*

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4:40 Organizer's Remarks



Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute

4:45 Presentation to be Announced



4:55 PLENARY KEYNOTE PRESENTATION: From Bytes to Breakthroughs: Generative AI Driving the Future of Life Sciences and Healthcare



Sofia Guerra, Vice President, Bessemer Venture Partners
Subha Madhavan, Vice President and Head, AI/ML, Quantitative and Digital Sciences, Global Metrics and Data Management, Pfizer Inc.

Generative AI has the potential to transform life sciences and deliver unprecedented insights, automation, and efficiency. But is it? This panel brings leaders from biopharma, healthcare, and emerging tech who are leveraging AI to advance drug discovery, diagnostics, and patient care. Panelists will present case studies, sharing real-world applications and how they've navigated technical and cultural challenges. Look beyond the hype to discover the technology's current impact and future opportunities.

6:10 Welcome Reception in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)



The Bio-IT Kickoff Reception is a reunion—reconnect with friends, explore cutting-edge research, and celebrate innovation! Enjoy poster presentations, networking, and vote for the Best of Show and Poster awards.

7:25 Close of Day

THURSDAY, APRIL 3

7:00 am Registration Open

8:00 Organizer's Remarks



Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

8:05 Presentation to be Announced



AI-POWERED PLATFORMS IN DRUG DISCOVERY: TACKLING ANTIBIOTIC RESISTANCE AND AGING THERAPEUTICS



8:15 PLENARY KEYNOTE PRESENTATION: Deep Learning for Antibiotic Discovery

James J. Collins, PhD, Termeer Professor, Medical Engineering & Science, Massachusetts Institute of Technology

This presentation delves into how advanced deep learning models analyze vast molecular libraries to identify potential antibiotic compounds with remarkable speed and precision. Highlighting recent breakthroughs and real-world applications, Dr. Collins will discuss AI's transformative potential to address antibiotic resistance and open new pathways for therapeutics.



8:45 PLENARY KEYNOTE PRESENTATION: Generative AI, Aging Research and Robotics as a Platform for Drug Discovery: From Hype to Clinical Efficacy

Alex Zhavoronkov, PhD, Founder & CEO, Insilico Medicine

9:15 Session Q&A

9:30 Coffee Break in the Exhibit Hall with Poster Viewing (Sponsorship Opportunity Available)

Start your morning with coffee, connections, and cutting-edge research! Enjoy poster presentations, network in the Exhibit Hall, vote for awards, and a chance at a fabulous raffle prize!

10:15 Organizer's Welcome Remarks

HARNESSING THE POWER OF DATA AND AI FOR CLINICAL DEVELOPMENT

10:20 Chairperson's Remarks (Sponsorship Opportunity Available)

10:25 Data—Your Second Language

Frank Dullweber, PhD, Digitalization Professional, Center of Excellence for Digital Transformation, Boehringer Ingelheim Pharma GmbH & Co. KG

Victoria A. Gamerman, PhD, Global Head of Data Governance, Boehringer Ingelheim Pharmaceuticals, Inc.

The digital transformation of Clinical Development goes beyond simple digital optimization and combines people, processes, and technology with the following core tasks: Treating data as an asset, fostering a data-driven mindset, and driving digital innovation. Artificial intelligence (AI) will not replace people, but will support them by combining human creativity with the data processing power of AI to create innovative solutions.

10:55 The Adoption and Implementation of AI and ML across Biopharmaceutical Companies

Mary Jo Lamberti, PhD, Director and Research Associate Professor, Tufts Center for the Study of Drug Development (CSDD)

The presentation will review where sponsors and CROs are deploying AI (artificial intelligence) and machine learning (ML) in clinical development based on a collaborative industry study. The presentation will examine the challenges of implementation as well as those methods that can increase trust in AI/ML across organizations.

11:25 Structured Content Authoring of Clinical Documents Using GenAI

Mark F. Ciaccio, PhD, Senior Biology Data Scientist, Platform Informatics & Knowledge Management, AbbVie, Inc.

Rapid progress in genAI has enabled advanced structured content authoring of clinical, regulatory, and safety documents. We created an enterprise-wide web application to autogenerate documents such as the Clinical Study Report, Informed Consent Form, and Product Safety Update Report using an



DIGITALIZATION OF CLINICAL DEVELOPMENT

Collect and Transform Raw Data into Actionable Insights to Accelerate and Improve Clinical Outcomes

extensible content template. The application can create whole documents in minutes by synthesizing and adding each section according to the template including AI-generated text, tables, images, and diagrams.

11:55 Presentation to be Announced (*Sponsorship Opportunity Available*)

12:55 pm Session Break and Transition to Lunch

1:05 Luncheon Presentation (*Sponsorship Opportunity Available*) or **Enjoy Lunch on Your Own**

1:35 Refreshment Break in the Exhibit Hall with Poster Viewing (*Sponsorship Opportunity Available*)

Bio-IT's hall is bigger than ever—one break won't cut it! Enjoy dessert and coffee after lunch, explore booths and posters, vote for awards, and participate in our raffle for a chance to win a prize!

DIGITIZING CLINICAL RESEARCH

2:25 Chairperson's Remarks (*Sponsorship Opportunity Available*)

2:30 Enabling Digital Data Flow via Digitalized Protocol

Sriram Krishnamurthy, Associate Director, Global Development Solutions, Regeneron Pharmaceuticals, Inc.

In our presentation, we will discuss Regeneron's approach towards digitalization of the study protocol and the schedule of events. We will explore the different strategies for protocol digitization and discuss how Regeneron is piloting an approach that leverages assisted authoring capabilities for protocol digitization. We will delve into the business processes and technologies that drive the digitization and highlight the value proposition of this approach.

3:00 Digitizing Clinical Research: IEEE-SA CTTMN's Technical Standards Framework

Isaac R. Rodriguez-Chavez, PhD, MHSc, MSc, CEO, 4Biosolutions Consulting (Sci/Clin/Reg Affairs) & Co-Chair, IEEE-SA, Clinical Trial Technology Modernization Network (CTTMN)

Mathew Rose, MD, Co-Chair, IEEE; Founder and CEO, SAAVHA, Inc.

The IEEE-SA CTTMN will discuss its work on five crucial technical standards to digitize clinical research: AI/ML, Risk-Based Assessment, Telehealth, Cybersecurity, and Hospitals at Home. These standards ensure consistency, reliability, and interoperability, enhancing patient safety, data quality, and security. By addressing key areas, they pave the way for efficient, secure, and patient-centric trials. Join this talk to discover how these groundbreaking standards will reshape clinical research and elevate your trials.

3:30 Optimizing Trial Study Design: GenAI-Enhanced Protocol Intelligence Tool

Ophelia Mok, Senior Manager, Business Analytics and Insights, Global Development Organization, Takeda Pharmaceuticals, Inc.

We used a semi-automated, GenAI-powered Protocol Schedule of Activities (SOA) table analyzer to evaluate clinical trial study burden. This tool provides study teams with competitor intelligence and promotes early discussions. It delivers actionable insights on patient burden related to protocol design, with the goal of minimizing protocol complexity and reducing the need for amendments.

4:00 Presentation to be Announced (*Sponsorship Opportunity Available*)

4:30 Best of Show Awards Reception in the Exhibit Hall with Poster Viewing (*Sponsorship Opportunity Available*)

Unwind with colleagues at our lively reception! Explore posters, vote for the best, network with exhibitors, enjoy a drink, and try to win a raffle prize. Celebrate Best of Show winners!

5:45 Close of Day

FRIDAY, APRIL 4

7:00 am Registration Open

7:00 Quick Bytes & Networking Breakfast—Lifted Rooftop Restaurant & Bar (*Sponsorship Opportunity Available*)

Start your morning with 'Quick Bytes & Networking'! Enjoy a cozy restaurant-style setting, quick bites, and speed networking. Connect, converse, and energize your Bio-IT experience before the plenary keynote!



8:00 Organizer's Remarks

Cindy Crowninshield, Executive Event Director, Cambridge Healthtech Institute



8:05 Innovative Practices Awards: Excellence in Technological Innovation

Allison Proffitt, Editorial Director, Bio-IT World and Clinical Research News

The Innovative Practices Awards recognizes and celebrates technology innovation in the life sciences. Bio-IT World is now accepting entries for the 2025 awards, recognizing partnerships and projects pushing our industry forward. Winners will be announced in mid-March 2025, acknowledged during the April 4 Plenary Keynote, and invited to present their work at the conference. For more information and to apply, visit www.bioitworldexpo.com/innovativepractices.

8:20 Presentation to be Announced

illumina

ADVANCING DRUG DISCOVERY AND HEALTHCARE THROUGH DATA-DRIVEN INNOVATION: FROM GENOMICS TO THERAPEUTICS



8:30 PLENARY KEYNOTE PRESENTATION: Scaling Genomic Medicine: Transforming Newborn Screening through Informatics and Innovation

Robert C. Green, MD, MPH, Professor and Director of Genomes2People Research, Mass General Brigham, Broad Institute, Ariadne Labs and Harvard Medical School

The BabySeq Project has pioneered the integration of genomic sequencing into newborn and childhood screening, uncovering unexpected risk variants and transforming healthcare delivery. This keynote explores the groundbreaking progress in genomic medicine, featuring real-world stories of families impacted by these discoveries. Learn about the informatics challenges and innovative solutions required to scale genomic screening for national and global implementation, reshaping the future of precision medicine.



9:00 PLENARY KEYNOTE PRESENTATION: Unlocking the Power of Machine Learning and Data-at-Scale to Deliver with Speed the Best Therapeutic Candidates

Justin M. Scheer, PhD, Vice President In Silico Discovery & Head, Molecular Computational Team, Johnson & Johnson Innovative Medicine

The challenges of high costs, lengthy timelines, and attrition have prompted our industry to integrate AI/ML into all aspects of the business. This presentation highlights J&J's strategic investments in AI/ML technologies to enhance drug discovery processes, including molecule design and optimization. By investing in these technologies with a modality-agnostic approach, J&J aims to tackle the hardest targets in drug discovery, ultimately increasing the success rate of delivering better molecules faster.



DIGITALIZATION OF CLINICAL DEVELOPMENT

Collect and Transform Raw Data into Actionable Insights to Accelerate and Improve Clinical Outcomes

9:30 Session Q&A

9:45 Coffee Break in the Exhibit Hall with Poster Competition Winners Announced *(Sponsorship Opportunity Available)*

Bio-IT is all about connections! Explore booths, award-winning posters, and network with clients, colleagues, and exhibitors. Grab coffee, build relationships, and stay for a chance to win a raffle prize!

10:30 Organizer's Remarks

LEVERAGING TECHNOLOGIES TO DRIVE CLINICAL RESEARCH INNOVATION FORWARD

10:35 Chairperson's Remarks *(Sponsorship Opportunity Available)*

10:40 Advanced Therapies Site Coordination and Logistics: Capabilities to Facilitate Patient Scheduling, Slot Management, and Logistics for Personalized Therapies Such as CAR T

Laszlo Vasko, Senior Director, Clinical Innovation R&D IT, Janssen Pharmaceuticals, Inc.

CAR T therapies are the ultimate form of personalized medicine. This presentation will cover the unique challenges of running clinical trials, managing investigational supply, and the need for close coordination with clinical trial sites from patient selection, slot reservation, and chain of identity/custody tracking. We'll review the technology components of a vein-to-vein capability, including a trial site front-end portal, slot management capability, planning, and supply chain integration.

11:10 The Future of Clinical Trials: Data-Driven Insights into Decentralized Solutions

Joan Chambers, Senior Consultant, Tufts Center for the Study of Drug Development

As clinical trials increasingly adopt decentralized clinical trial (DCT) solutions to improve patient accessibility, the Tufts CSDD-PACT Consortium has collected and analyzed data from 69 trials to assess the effectiveness of various DCT methodologies. This presentation reveals key insights into the most frequently used DCT solutions and their impact on recruitment, retention, and cycle times, emphasizing the need for ongoing data collection to optimize DCT implementation.

11:40 PANEL DISCUSSION: Patient Identification for Clinical Trials in Electronic Health Record Systems

Moderator: Laszlo Vasko, Senior Director, Clinical Innovation R&D IT, Janssen Pharmaceuticals, Inc.

Patient recruitment into clinical trials continues to be the largest and costliest stumbling block in drug development. Certain therapies could significantly benefit from ways to flag patients in clinical care systems, notifying site staff of opportunities to match patients to trials. This panel will discuss sponsor and healthcare institution perspectives on the opportunities and challenges of trying to tap into EHRs for patient recruitment, as well as ideas for industry collaboration.

Panelists:

Lukasz Kaczmarek, Principal Medical Informatics Architect, Medical Informatics Section, Roche

Steven E. Labkoff, MD, Vice President, Development & Medical Analytics, Business Insights & Technology, Bristol Myers Squibb

Yuri Quintana, PhD, Chief, Division of Clinical Informatics, Beth Israel Deaconess Medical Center

Christian Reich, MD, Principal Investigator, Observational Health Data Sciences and Informatics (OHDSI) Center, Northeastern University

12:10 pm Presentation to be Announced *(Sponsorship Opportunity Available)*

1:10 Session Break and Transition to Lunch

1:20 Luncheon Presentation *(Sponsorship Opportunity Available)* or Enjoy Lunch on Your Own

1:50 Refreshment Break in the Exhibit Hall with Last Chance for Poster Viewing *(Sponsorship Opportunity Available)*

Feeling tired? Recharge during the final Networking Exhibit Hall break! Visit booths, explore posters, connect with peers, and turn in your Game Cards for a chance to win a raffle prize.

DRIVING AI INNOVATION: BEST PRACTICES FOR IMPLEMENTATION IN BIOPHARMA

2:30 Chairperson's Remarks *(Sponsorship Opportunity Available)*

2:35 Unlocking AI Potential: Best Practices for Implementation and Management

Vinod Das, Associate Director, Bayer Pharmaceuticals

Petrina Kanya, PhD, Global Head of AI Platforms & Vice President, Insilico Medicine; President, Insilico Medicine Canada

Srivatsan Nagaraja, Founder, Vidya Seva

As AI transforms drug discovery, development, and precision medicine, understanding the business operations behind these advancements is essential. This session will cover critical aspects such as AI tool selection, project scoping, budget management, and prioritization amid evolving regulations. Hear real-world case studies on successful AI deployment, with strategies to navigate regulatory risks while ensuring cost-effectiveness. Join us for a dynamic discussion to harness AI's full potential in life sciences innovation.

4:05 Close of Conference

Bio-IT World VENTURE, INNOVATION & PARTNERING

April 3, 2025 | Boston Omni Boston Hotel at the Seaport

In-Person Only

Uniting Investors
and Leaders:
Advancing
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Join 200+ C-Suite industry stakeholders at the Bio-IT World Venture, Innovation & Partnering Conference on April 3, 2025, in Boston, the US's top biotech hub. This exclusive single-day event, featuring a highly select group, is part of the renowned Bio-IT World Conference & Expo. This meeting brings together venture capitalists, private equity professionals, bank investors, government partners, start-ups, and industry leaders focusing on investment trends, challenges, and opportunities in biomedical research, drug discovery, and healthcare technology. Additionally, your registration includes access to the Bio-IT World exhibit hall with 150+ emerging businesses, 11 scientific tracks, and networking receptions.

2025 AGENDA

- The Role of Tech VCs in Biotech: Bridging the Gap
- The Impact of Mega Rounds: What High-Dollar Venture Funding Means for Biopharma
- AI/ML in Biotech: Educating Investors for Smarter Decisions
- Mergers, Acquisitions & Partnerships: Timing and Strategy
- IPO Market Insights: Timing Your Biotech Exit
- Pipeline and Portfolio Management: De-Risking with Pharma Partnerships
- Building the Right Biotech Company: Asset Count and Funding Strategy
- Fundraising and Exit Strategies: Setting Realistic Expectations
- Overcoming the Valley of Death: Strategies for Biotech Start-Ups
- Biotech Regulation Trends: Shaping Investment Strategies

MEET OUR CO-CHAIRS



LUBA GREENWOOD
Managing Partner
Dana-Farber Cancer Institute,
Binney Street Capital



JOHN KEILTY
Venture Partner
Third Rock



WILLIAM MAYO
Senior Vice President
Research, IT
Bristol Myers Squibb



PLENARY KEYNOTE PRESENTERS

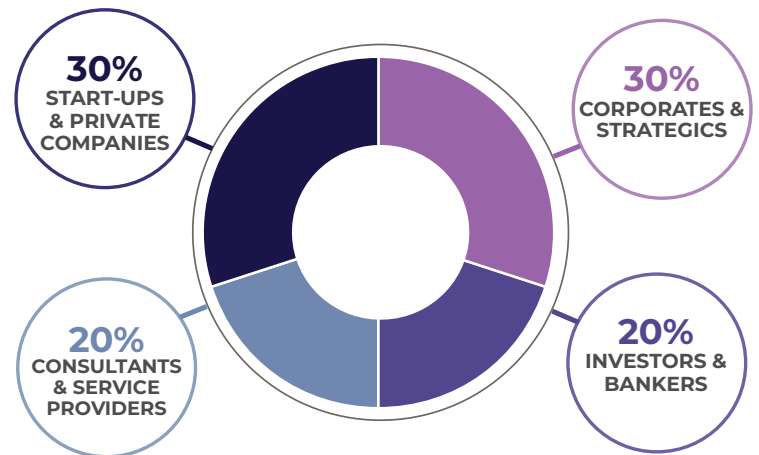


Derek Lowe, PhD
Director in Chemical Biology
& Therapeutics, Novartis
BioMedical Research



Barry Canton, PhD
Co-Founder & CTO, Ginkgo
BioWorks, Inc.

ENGAGE WITH A HIGH-LEVEL AUDIENCE ATTENDEE DEMOGRAPHICS



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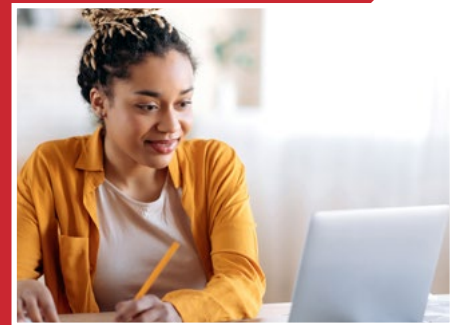
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HOTEL & TRAVEL INFORMATION

CONFERENCE HOTEL AND VENUE:

Omni Boston Hotel at the Seaport
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\$387 Patron Tower (single or double occupancy)

** Includes Complimentary WiFi

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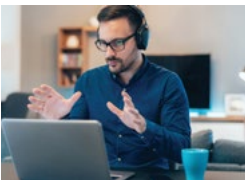
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