



WHAT'S NEXT?? UMASS ZOOM SUMMIT: DATA-DRIVEN AND TECHNOLOGY-INFORMED PRECISION HEALTH

The [University of Massachusetts](#) is pleased to extend an [invitation](#) to a “zoom summit” in Data-Driven and Technology-Informed Precision Health on **February 10, 2021 from 3:30-5:00 pm**. We will introduce industry leaders, their colleagues in business strategy and government relations, to some of the most important breakthroughs of recent years in **five key fields in Precision Health**.

In the final hour, we invite you to discuss **grand challenges** that will shape this field in the next decade. Accomplished scientists, from across the five campuses of the University of Massachusetts will be on hand to discuss the most pressing translational questions in the post-COVID period.

Major research breakthroughs (30 minutes):

Genomics

- Basic Science: advance our understanding of the genetic bases of neurodegenerative disease, macular degeneration, infectious diseases, and many other diseases.
- Biomarkers: apply powerful new technologies (proteomic, transcriptomic, nanotechnologies) and integrative analytics to well-curated human samples in order to clarify biological pathways, provide insights into disease mechanisms, identify new therapeutic targets, and define novel biomarkers of disease or response to therapy.
- Therapies: Pioneering discoveries of RNAi and microRNA laid the groundwork for whole new classes of therapeutics.

Digital Health

- Catalyze and de-risk device development: this initiative works with inventors and small companies to develop point-of-care devices. Home to the NIH-funded (\$80 million) RADx initiative, which is rapidly bringing 20 new COVID-19 point-of-care diagnostic devices through late-stage pre-clinical development and first-in-human clinical trials.
- 5G wireless body sensor system and emulation platform for detecting and predicting life-threatening events, illicit and recreational multi-drug use, real-time machine learning, and biosensor-based randomized controlled trials (UMD)
- Voice Assistant Systems for Early Detection of Cognitive Decline: tests use of VASs like Alexa for early detection of cognitive decline and Alzheimer’s Disease.

Data Science

- The UMMS Data Lake combines clinical and research data to support investigation; partnership with the NIH NCATS-sponsored CTSA clinical research data network allows national research collaborations, cohort identification, and recruitment to clinical trials.
- CDC Influenza Forecasting Center of Excellence (UMA), one of two in the nation, has created some of the most accurate forecasts for seasonal influenza and provides the CDC and the White House, a more accurate picture of COVID 19’s path.

Community Engagement and Health Equity

- Partnered in communities across Massachusetts to reduce disparities in cancer care

- develop, test, and disseminate an integrated multi-level, culturally sensitive intervention to engage African Americans and Latinos in translational research
- using storytelling to enhance representation of Black and Hispanic people in SARS-CoV-2 immunology and vaccine research

Precision Health Workforce

- A range of campus, inter-campus, and national collaborations facilitate trans-disciplinary training, team science, and career development pipelines
- Data Science BS-MS programs train next-generation data scientists, including those in precision health

Grand Challenges (60 minutes):

Our most accomplished researchers will be on hand for a back-and-forth discussion of these five pressing problems. We will foreground where we're going in these domains, but are curious to learn, is this where you are headed? Are there other directions to consider?

Breakout group 1: Create Genomics-Informed Disease Prevention, Diagnoses, and Treatment Plans

UMass will create a bench-to-bedside model of genomics-informed patient care for a range of common and rare diseases, bringing together researchers that study the role of genomic variation in human health with those that design personalized risk assessments, diagnostic/prognostic protocols, gene therapies and other approaches.

Breakout group 2: Design Next-Generation, Useful, and Usable Digital Health Technologies

UMass will bring together technologists, clinicians, and behavioral scientists to develop digital health tools that use advanced technologies (e.g., 5G/6G, wireless sensors) to improve patient health and clinician productivity.

Breakout group 3: Develop Advanced Data Science Methods that Translate Complex Health Data into Actionable Knowledge

UMass will be a leader in synthesizing and analyzing longitudinal patient data from diverse sources (e.g., electronic health records, mobile health devices), to support health care decision making, and in using quantum computing advances to improve decision making in areas such as drug design, DNA sequencing and analysis.

Breakout group 4: Develop Scalable Precision Health Models that use Data and Technology to Improve Health Equity

UMass will partner with the Commonwealth's diverse communities and care settings to ensure that the work being done in pursuit of Grand Challenges 1-3 improves health equity. UMass will focus most intensely on improving health equity in cancer, cardiovascular, diabetes, mental health, and neurodegenerative disorders.

Breakout group 5: Create an Innovative Data-Driven and Technology-Informed Precision Health Workforce

UMass will train an interdisciplinary clinical, technology, and research workforce so that the Commonwealth is poised to become a leader in the area of Data-Driven and Technology-Informed Precision Health.

Register here: <https://www.eventbrite.com/e/data-driven-and-technology-informed-precision-health-registration-133008655469>