Artificial Intelligence / Human Intelligence & Immunoinformatics Workshop

June 13 & 14, 2024 | Providence, RI

Day 1: Artificial Intelligence / Human Intelligence and Infectious Diseases: Evolution, Vaccine Design, and Vaccine Efficacy Evaluation

9:00 am • **Opening Remarks and Introduction**
Organizing Commitee

9:30 am • **It's All About Data: The Promises and Limitations of Recent Developments in AI**
Stephen Bach, PhD, Brown University

10:00 am • **"The Medium is the Message" Introduction to/Applications of Computational Immunology (Faster vaccines, predicting vaccine efficacy, understanding the diversity and individuality of immune response)**
Annie De Groot MD, EpiVax

10:30 am Coffee Break/Posters

10:45 am • **The problems we face: Impact and drivers of continuous viral evolution on PRRSV in American swine**
Kimberly Vanderwaal, PhD, University of Minnesota

11:15 am • **Predicting the Next Pathogen: Influenza A and social geography in the United States**
Justin Bahl, PhD, University of Georgia

11:45 am • **Swine Influenza A Viruses and the Tangled Relationship with Humans**
Tavis Anderson, PhD, Agricultural Research Service, USDA

12:15 pm Lunch Break/Posters

1:00 pm • **The iVAX Platform for Vaccine Design**
Annie De Groot, MD & Kirk Haltaufderhyde, PhD, EpiVax Inc.

1:30 pm • **It's EpiCC: T cell Epitope Content Comparison for Predicting Vaccine Efficacy. Application to PRRSV, Influenza, and PCV2**
Andres Gutierrez, PhD & Riley Nolan, EpiVax Inc.

2:00 pm • **Loading the Antigen Dice: Randomness, immunity, and patient data**
Tom Sgouros, Brown University

2:30 pm • **Bench-to-Bedside Translational Research: Challenges and suggestions for improvement**
Attila A. Seyhan, PhD, Brown University

3:00 pm Coffee Break/Posters

3:30 pm • **A Universal Pipeline for ML/AI Prediction of Prognostic and Diagnostic Data**
Joanna Fueyo, PhD & Professor Mark Kon, PhD, Boston University

4:00 pm • **Combining the Power of AI and Genetics to Develop Effective Personalized Cancer Treatments**
Guilhem Richard PhD, EpiVax Therapeutics

4:30 pm Panel discussion and Q&A session

5:30 pm Dinner reception at The Rooftop at the Providence G to follow

Day 2: Artificial Intelligence / Human Intelligence and Biologic Therapeutics

9:00 am • **Introduction**
Julian Chandler, Alexion Pharmaceuticals & Brian Roberts, PhD, EpiVax Inc.

9:15 am • **Why Do Biologics Fail and Could Failures Have Been Predicted?**
Amy Rosenberg, MD, EpiVax Inc. (Formerly FDA)

9:45 am • **Experimental Engines for Immune Systems Analysis: High-Throughput Immune Receptor Functional Screening to Empower AI/ML Algorithms**
Brandon DeKosky, PhD, MIT & The Ragon Institute of MGH, MIT, and Harvard

10:15 am **Generative Biology for Biotherapeutic Optimization**
Christopher Langmead, PhD, Amgen

10:45 am Coffee Break/Posters

11:00 am • **The ISPRI Platform for Biologics Risk Assessment and Design**
Aimee Mattei, MS & Riley Nolan, EpiVax Inc.

11:30 am • **Deimmunization Antibody Engineering: affinity-tuned deimmunized bispecific antibodies successfully translated to clinical trials in humans (application of ISPRI and MOE)**
Jeonghoon Sun, PhD, Multiverse Pharma

12:00 pm Lunch Break/Posters

1:00 pm • **Mining Data from Clinical Trials to Develop Clinically Relevant AI Algorithms**
Vibha Jawa, PhD, Bristol Myers Squibb

1:30 pm • **AI or HI? Predicting Antibody Immunogenicity from Existing Data**
Andres Gutierrez, PhD, EpiVax Inc.

2:00 pm • **Assessing Immunogenicity Risk of Host Cell Proteins Using In Silico and In Vitro Methods**
Kirk Haltaufderhyde, PhD, EpiVax Inc.

2:30 pm Coffee Break/Posters

3:00 pm • **Ozempic and Friends: Should we be concerned about the immunogenicity risk of generic peptides?**
Aimee Mattei, MS, & Brian Roberts, PhD, EpiVax Inc.

3:30 pm • **Integrating Human and Machine Intelligence: Managing the Good, the Bad and the Ugly**
Joan Peckham, PhD, University of Rhode Island

4:00 pm Summary of conference

5:00 pm Dinner reception at Bayberry Garden to follow

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