Dear Friends,

We are introducing a new format for updates on the Human Vaccines Project. With continued momentum, you can expect to hear from me more regularly about the latest news and happenings.

I am pleased to share with you highlights from our 2nd annual Human Vaccines Project Scientific Steering Committee meeting, which took place June 1-2, 2017 at the Fondation Merieux Les Pensieres Center for Global Health in Annecy, France. The meeting brought together 35 renowned leaders across the immunology, vaccine, therapeutics and bioinformatics fields to review our scientific and organizational progress.

After just over a full year of operations, the Project has evolved from an initial concept to an ambitious scientific program that when completed will transform current understanding of the human immune system. We have brought together a powerful combination of partners across academia, government, nonprofits, the pharmaceutical industry and biomedical technology companies to collaborate toward a common scientific goal of decoding the human immune system to fight disease and improve human health. We continue to attract new supporters who enthusiastically embrace our approach to impact-driven outcomes.

The Human Vaccines Project is working with our partners to conduct some of the most comprehensive studies of the human immune system. Our research is focused on understanding the key parts that make up the human immune system, and the common rules that those parts follow to prevent and control a broad spectrum of diseases. Successful achievement of our goals will create a paradigm shift in vaccine and immunotherapeutic development and usher in a new era in global disease prevention.

We have initiated clinical trials for both of our programs and just reviewed the preliminary results that reinforce that we’re on the right track with our scientific approach. We plan to expand these trials and release initial findings later this year. Below you will find a snapshot of our recent progress.

Please reach out with any questions you may have about the Human Vaccines Project.

Regards,

Wayne
President & CEO, Human Vaccines Project

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Progress and Highlights from the 2nd annual Human Vaccines Project Scientific Steering Committee meeting

1. Quantifying the Parts of the Immune System: The Human Immunome Program

Under the leadership of Dr. James E. Crowe, Jr., Director of Vanderbilt Vaccine Center, Vanderbilt University Medical Center, and in partnership with Illumina, a global leader in DNA sequencing and array-based technologies, the Project is working to determine the components of the human immune system central to prevention and control of disease. This unprecedented effort is only possible now due to the recent convergence of advances from biomedical, computer and engineering sciences, and work is being supported by our Bioinformatics Core located at the J. Craig Venter Institute (JCVI) and the San Diego Super Computer Center at UC San Diego.

Dr. Crowe presented initial data from healthy adults, providing the first glimpse of the scale of the human immune system, and
the common elements between individuals. From this initial data, immunome analyses will be undertaken in the second half of 2017 to compare the immune systems of healthy subjects with persons with immune-mediated diseases, and to assess immune systems across age, gender, ethnicity and geography.

The Project aims to publicly release initial data from the Human Immunome Program later this year, and develop an open-source database to enable access for scientists worldwide.

2. Understanding the Rules by which the Human Immune System Operates for Prevention and Control of Disease: The Rules of Immunogenicity Program

We are working with our partners at the University of British Columbia (UBC), Mesa Consortium (University of California, San Diego (UCSD), J. Craig Venter Institute (JCVI), La Jolla Institute for Allergy and Immunology and The Scripps Research Institute), and Vanderbilt University to determine the rules the immune system follows to prevent and control disease across all populations. The initial study seeks to determine why some individuals are protected from a single shot of a licensed vaccine while others are not. The study plans to enroll demographically diverse healthy individuals, from birth to old age.

Drs. Tobias Kollmann and Manish Sadarangani, of the University of British Columbia (UBC), presented preliminary results of their work. The initial phase of the vaccine study at UBC is comparing the immune responses of younger adults with older adults. It is one of the most comprehensive assessments of a vaccination ever studied, including analysis of innate and adaptive immune responses, lymph node tissue sampling, microbiome sampling, and a broad spectrum of ‘omics’ assays collectively termed ‘systems vaccinology’.

The next phase of the study will broaden the diversity of populations assessed from neonates through older adults, in high-, middle- and low-income countries.

3. Integrating and Analyzing ‘Big Data’: The Bioinformatics and Data Management Core (BDMC)

The Project’s programs will be generating a massive amount of data, which requires state of the art bioinformatics and data management. To address this challenge, the Project has established a Bioinformatics and Data Management Core led by Drs. Richard Scheuermann at JCVI and Bob Sinkovits at the San Diego Super Computer Center at UC San Diego. The Bioinformatics Core has been establishing the policies, standards and frameworks to handle the large and varied sources of data, allowing linkages to existing genomics and clinical data sets. Through its Bioinformatics Core, the Project will rapidly open source release much of its data to the greater scientific community.
The Human Vaccines Project was awarded a grant from the John D. & Catherine T. MacArthur Foundation to explore the regulatory and ethics issues for conducting experimental medicine trials of vaccines in globally diverse populations. In January 2017, the Project held the first of two workshops on this topic in partnership with the New York Academy of Sciences. On July 18-19, 2017, the second workshop will be held in Johannesburg, South Africa. The Project plans to publish a summary of the two workshops later this year.

David Curry, Executive Director of the Center for Vaccine Ethics and Policy, will serve as facilitator for the workshops, which bring together vaccine trials specialists, regulatory officials, ethics, policy, and community members to address key issues to expedite iterative experimental medicine trials.

Upcoming Events

Human Vaccines Project Global Regulatory + Ethics Meeting
Johannesburg, South Africa | July 18-19, 2017

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