HIVR4P 2018 Co-chair Georgia Tomaras of Duke University Medical Center is immersed in efforts to identify immune correlates of protection for preventive vaccines and identify mechanisms for inhibiting pathogens such as HIV. As Duke’s director of research, she also works to equip early career scientists to work across multiple disciplines including vaccine immunology, clinical research, engineering, biostatistics/bioinformatics and global health. We asked Dr. Tomaras for her take on the search for an HIV vaccine, why she chooses to focus on mentoring young researchers and what she’s looking forward to at HIVR4P 2018.

It’s been a long road for research to develop an HIV vaccine. What’s your take on where we are now and where we still need to go to get a vaccine?

A critical issue for the field, in addition to getting the right immune response from a vaccine, is making it last. There are exciting new scientific methods that, when combined with powerful analytics, are starting to reveal the relationships among immune responses in shaping a functional anti-HIV response. We need to learn everything we can on how the human immune system responds to vaccination in order to provide a roadmap to an effective and long-lasting vaccine response.

What do you see as the most promising roads ahead in vaccine research?

One of the most promising roads ahead is finding a way to induce effective antiviral responses by stimulating multiple components of the immune system in a single vaccine. At the population level, this approach can increase the chance that the vaccine will stimulate protective immune defenses in each person. A session at the upcoming HIVR4P meeting, “Linking Arms in Defense: Innate, Cellular and Humoral,” will focus on that challenge.

Do you believe that a vaccine is essential to ending the epidemic? If so, why?

An effective vaccine is a central piece of efforts to end the epidemic, since it can be broadly deployed. Innovations from successful HIV vaccine development will also have an impact beyond HIV, by providing unforeseen breakthroughs to combat other diseases to improve human health around the world.

You spend a lot of your time and energy on efforts to train future scientists. What do you get out of that?

The excitement of new discovery is thrilling each time, and exponentially more rewarding when it comes from someone training to be an independent scientist.
Another focus of your work is developing the capacity of scientists to work across multiple disciplines. Is that commitment to cross-disciplinary research part of what drew you to HIVR4P?

Yes. I have seen first-hand the power of cross-disciplinary approaches to solving complex problems. My work within the Duke Human Vaccine Institute, Department of Surgery and the HIV Vaccine Trials Network is built upon the model of bringing together expertise from different scientific disciplines to address the most pressing biological questions.

What are you looking forward to hearing or learning at the conference?

I look forward to the energy and new ideas that will be generated from the discussion of the presented data. The plenaries and symposia will be rich with innovative ideas for HIV prevention. This can only happen at a meeting like HIVR4P, which brings people working on vaccines, antibody mediated prevention, microbicides and ARVs together in one place.