

Sarah C. Gilbert Interview



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Our February Immunologist of the Month is Sarah Gilbert, faculty member at the Jenner Institute in the University of Oxford. She has performed clinical trials for new flu vaccines, as well as other vaccines that use recombinant adenoviruses vectors. Furthermore, Gilbert is interested in protective CD8+ T-cell immunity in malaria. Gilbert has had extensive involvement in vaccine development, acting as Programme Director for the Wellcome Trust Strategic Award on Human and Veterinary Vaccine Development and a committee member of Clinical Biomanufacturing Facility Management. In addition, Gilbert has co-founded Vaccitech, a collaborative vaccine development spin-out company from Oxford, which performs clinical vaccine programs for influenza, cancer, and other emerging pathogens.

Position: Professor of Vaccinology, Jenner Institute, University of Oxford.

How does has your research in vaccinology shaped your research interests ? The first vaccine that I worked on was against Plasmodium falciparum [the parasite that causes] malaria. I joined Adrian Hill's research group, and we wanted to make a vaccine that would be capable of inducing protective T cell responses in humans. Almost all vaccines are designed to work by inducing antibodies against a pathogen, but we knew from epidemiology studies that CD8+ T cell responses against malaria liver stage antigens could be protective. That research led to a series of candidate vaccines being made and taken into clinical trials. However, T cells are important in protection against other diseases as well, and I started to apply the same approach to influenza viruses. That led to an interest in pathogens that may cause pandemics, which have received much more attention since the 2014 Ebola outbreak.

What diseases are you currently focusing on ? I still collaborate on malaria vaccine development and now have a spin-out company, Vaccitech, that is working on clinical development of a novel influenza vaccine, but I am also working on vaccines against Middle East Respiratory Syndrome, Lassa fever, Nipah virus and Crimean Congo Haemorrhagic Fever. We use viral vectors to produce many different vaccines, and I am also interested in new ways of manufacturing these vaccines for clinical use in order to speed up clinical development.

What is one interesting discovery in your field of immunology ?: I think the most interesting discovery is the finding that we can combine therapeutic vaccines and drugs in cancer treatment, to both improve the body's own response against cancer and block the attempts of the tumour to protect itself. I think we will see major changes in immunological treatments for cancer in the coming years.

See www.Vaccitech.co.uk for more information.

Interview by Rebecca Ng