



Dr. Gemma Douilhet

“Programming immune responses in the skin: networks, switches and codes”

Skin is the largest organ of the body, and a major site for allergic disease, such as atopic dermatitis. Being regularly exposed to a multitude of external allergens, the epidermal environment needs to react quickly to incoming threats, and as such plays an important role in both the innate and adaptive immune response to allergens. These allergic responses are the culmination of a series of pathways, networks and switches which initiate and direct immune regulation within the skin. By utilising computational models to depict these signalling cascades, we can begin to examine skin immune regulation at multiple levels, identifying key pathway components to generate hypotheses which can guide targeted experiments into the programming of allergic response.

The Systems Immunology Group at the University of Southampton aims to decode the immune pathways leading to allergic responses in the skin using a range of in silico modelling approaches alongside experimental data from clinical samples. This talk will outline some of our key work and discuss how utilising a multi-discipline systems biology approach to investigating immune networks can aid experimental design and provide insights into the dynamics of allergic responses.

Seminar Room BAH1, Building 3, Deutsches Elektronen-Synchrotron (DESY)

