

**Hannes Saal**

**University of Sheffield**

<https://activetou.ch/>

[h.saal@sheffield.ac.uk](mailto:h.saal@sheffield.ac.uk)



**Talk Title:**

How the skin shapes tactile feedback during action and perception

**Abstract:**

The skin is our largest sensory organ and contains different types of mechanoreceptors that respond to tactile stimulation. However, tactile feedback does not directly reflect properties of external objects or the forces exerted upon them. Instead the neural responses are shaped to a large extent by the mechanics of the skin itself. In this talk I will present recent work, where we characterize the mechanics of the skin and its influence on neural responses in the somatosensory periphery. I will describe how skin viscoelasticity imbues the skin with a physical memory that mechanoreceptors will respond to even in the absence of tactile stimulation. Further, I will describe how mechanical waves can spread widely through the skin to allow sensation far from the point of contact. Finally, I will discuss recent work where we record images of the sub-surface structure of the skin during dynamic contact to investigate how individual fingerprint ridges deform, causing tactile information to propagate through different skin layers. Together, these findings demonstrate the importance of the skin itself in how tactile responses represent the consequences of movements, external objects, and the body itself.

**Biographical Information:**

Hannes Saal is a Senior Lecturer (Associate Professor) at the Department of Psychology, University of Sheffield in the United Kingdom, where he directs the Active Touch Laboratory. His research focuses on the sense of touch, which he investigates using computational and psychophysical techniques.