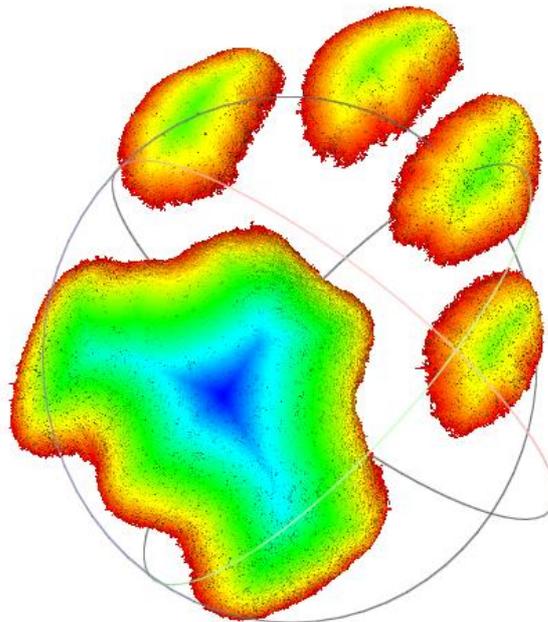


## Project Update: November 2016

### 3D sampling of lion paws

In Hluhluwe-iMfolozi Park (South Africa), lions are regularly captured for various management reasons, which include branding, to differentiate the individuals, collect blood samples for genetic analyses and to fit collars to monitor their movement. A wildlife veterinarian conducts the capture that follows a strict ethical protocol. During these captures, we opportunistically sampled lion paws using photogrammetry in order to reconstruct digital 3D models. This enabled us to test the recording and feature extraction techniques and to analyse the difference in size and shape across the age-sex categories. The ultimate goal of our research is to investigate the intrinsic properties of the paws before they mark the substrate with tracks. A better understanding of the variation between individuals of different ages and sexes will enable us to investigate these parameters from tracks. In this way we contribute to the development of a non-invasive monitoring method based on tracks.



Left - A sedated lion (*Panthera leo*) captured for management reasons in Hluhluwe-iMfolozi Park, South Africa. From right to left, Birgit Eggers, wildlife veterinarian, Antoine Marchal, Rufford Small Grant holder, and Dave Druce, park ecologist. Right - Digital 3D model of a lion paw reconstructed by photogrammetry.