LISA

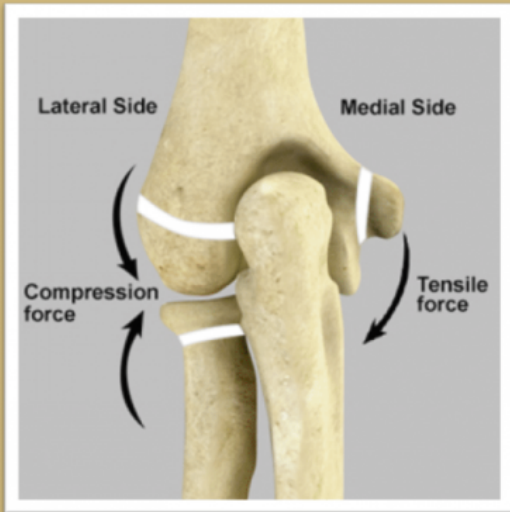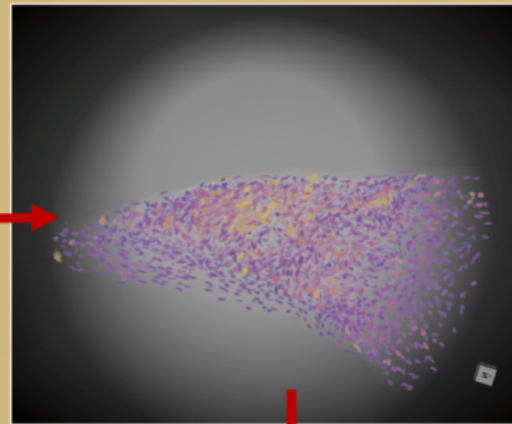# Using spatial statistics to characterize the distribution of Osteocytes in Knee Bone
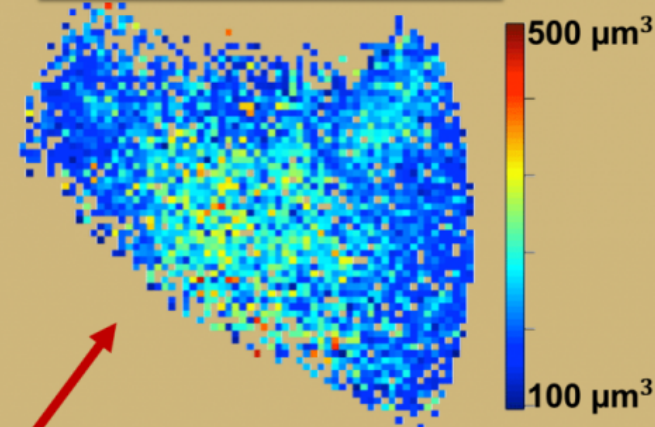
Visualization of forces on elbow bone

Lateral Side — **Medial Side**

Compression force — **Tensile force**

3D Rendering colored by **Volume**

Discretized Tensile Data

500 μm^3

100 μm^3
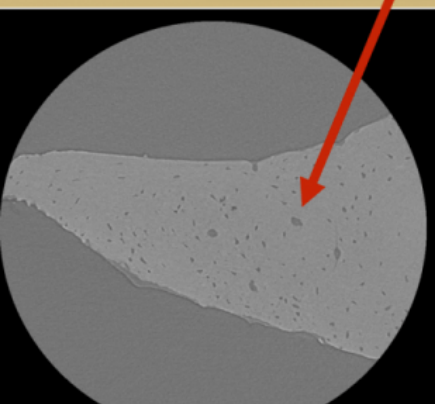
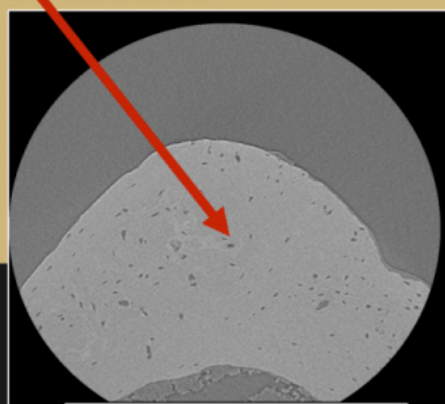Can use **spatial statistics** to **quantify** visual differences

Data collected via **Nano CT scanner**

Individual Osteocytes

Tensile

Compressive

Interested in **variation** of:
- ❖ Volume
- ❖ Orientation
- ❖ Location

Gaussian Process Smoothing

Osteocyte: a bone cell, formed when an osteoblast becomes embedded in the matrix it has secreted.