



# Random wear shapes all pointed tips alike

**John Sebastian, Kaare H Jensen**

*Department of Physics, Technical University of Denmark (DTU)*

*Pencil tips, when exposed to stochastic weathering converge to a geometric profile universal to all pointed tips, namely, a power-law profile,  $z \sim r^2$ . In fact, despite their ubiquity in nature, spikes and biostingers rarely exhibit sharp tips in nature - an inevitability of random wear.*