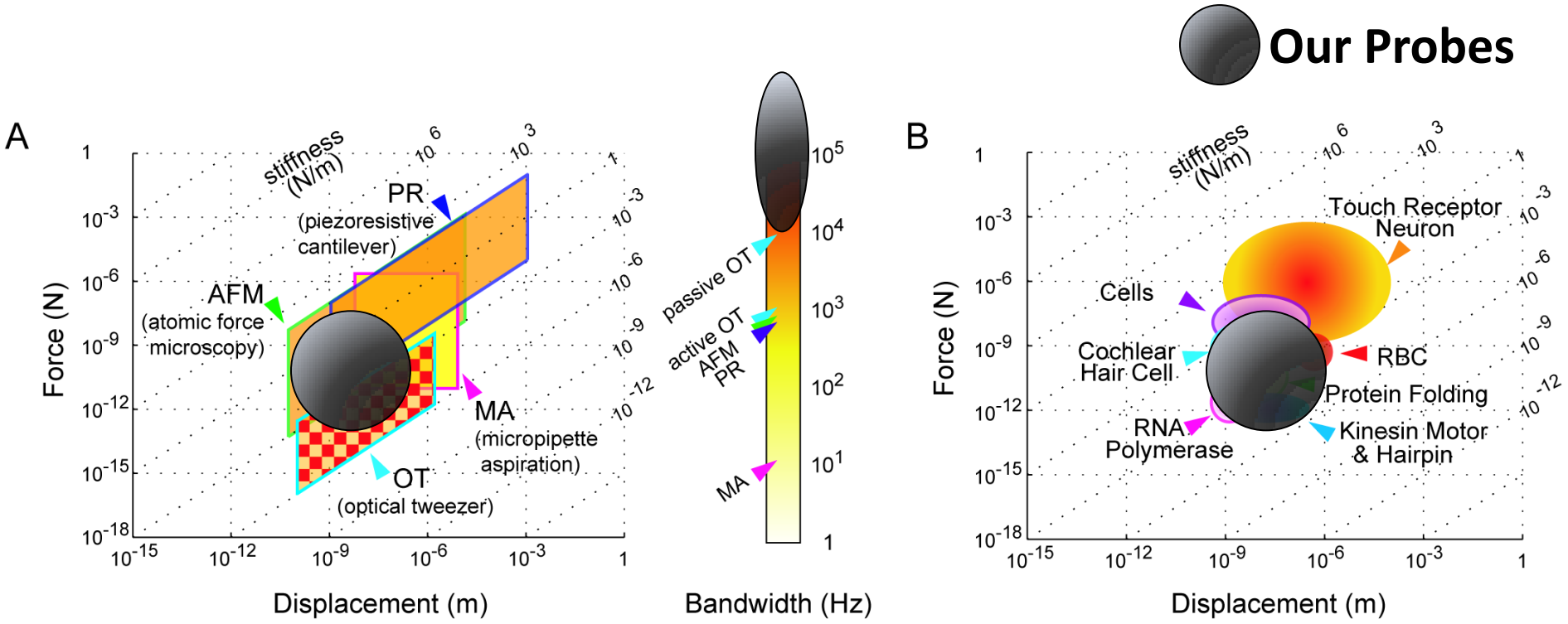
Fast Force Probes for Mechanobiology



We have developed a MEMS force probe for the study of 1-1000 pN forces in biological systems at frequencies up to 200 kHz. High frequency forces are important (e.g. hearing, touch) but can't be studied with existing tools.

Adapted from Park et al, PNAS 2007

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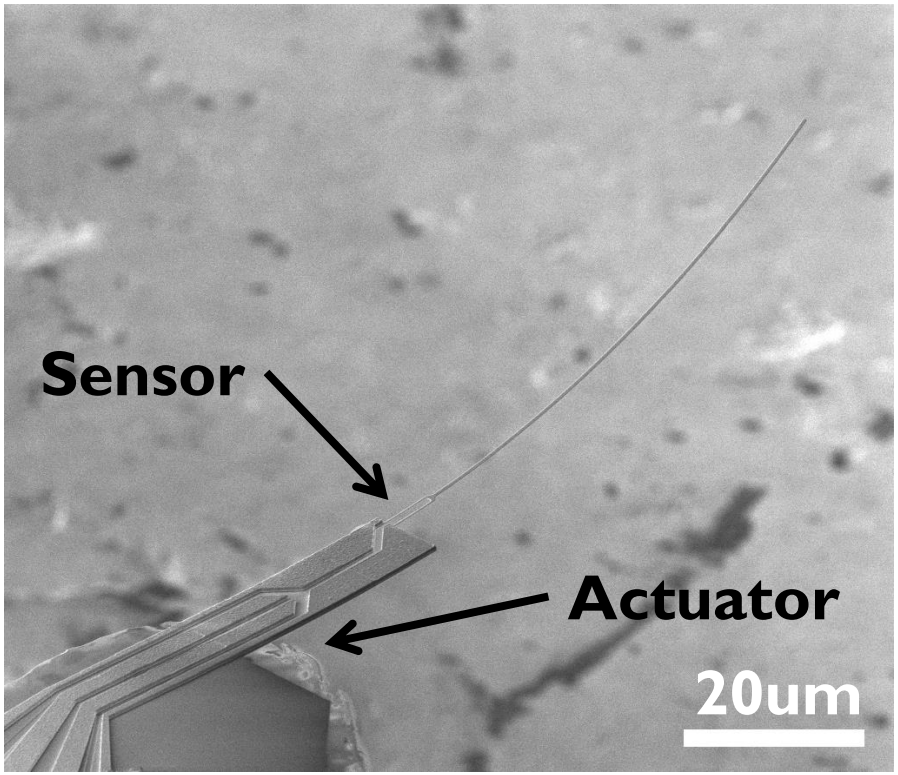
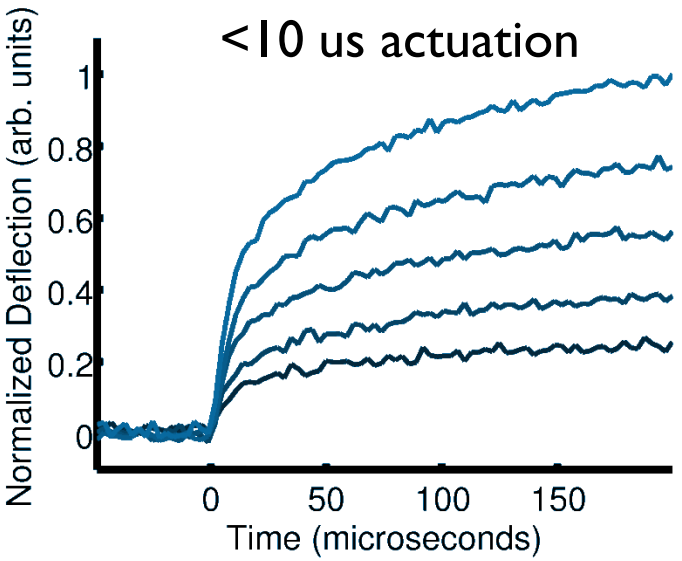
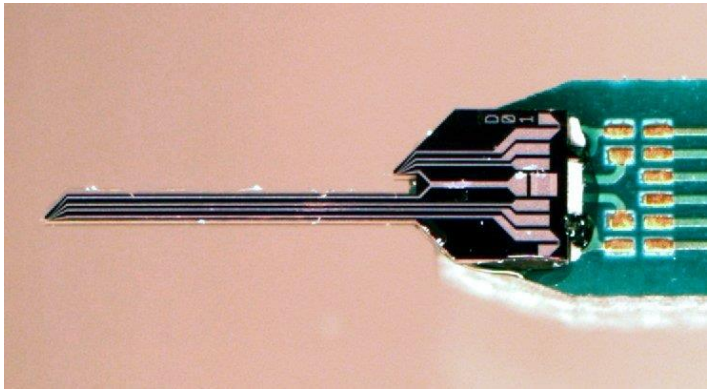


Compatible with upright
and inverted microscopes





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Fast Force Probes for Mechanobiology

Damage to specialized neurons (hair cells) in the inner ear is a leading cause of hearing loss. We are using the fast force probes to investigate mammalian hearing at frequencies 10x greater than have been possible to date.