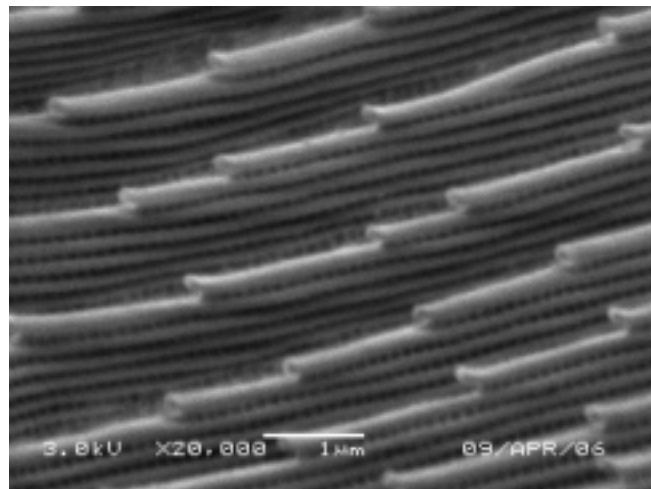
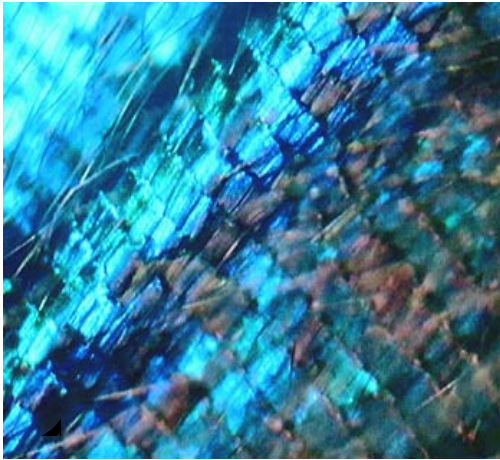
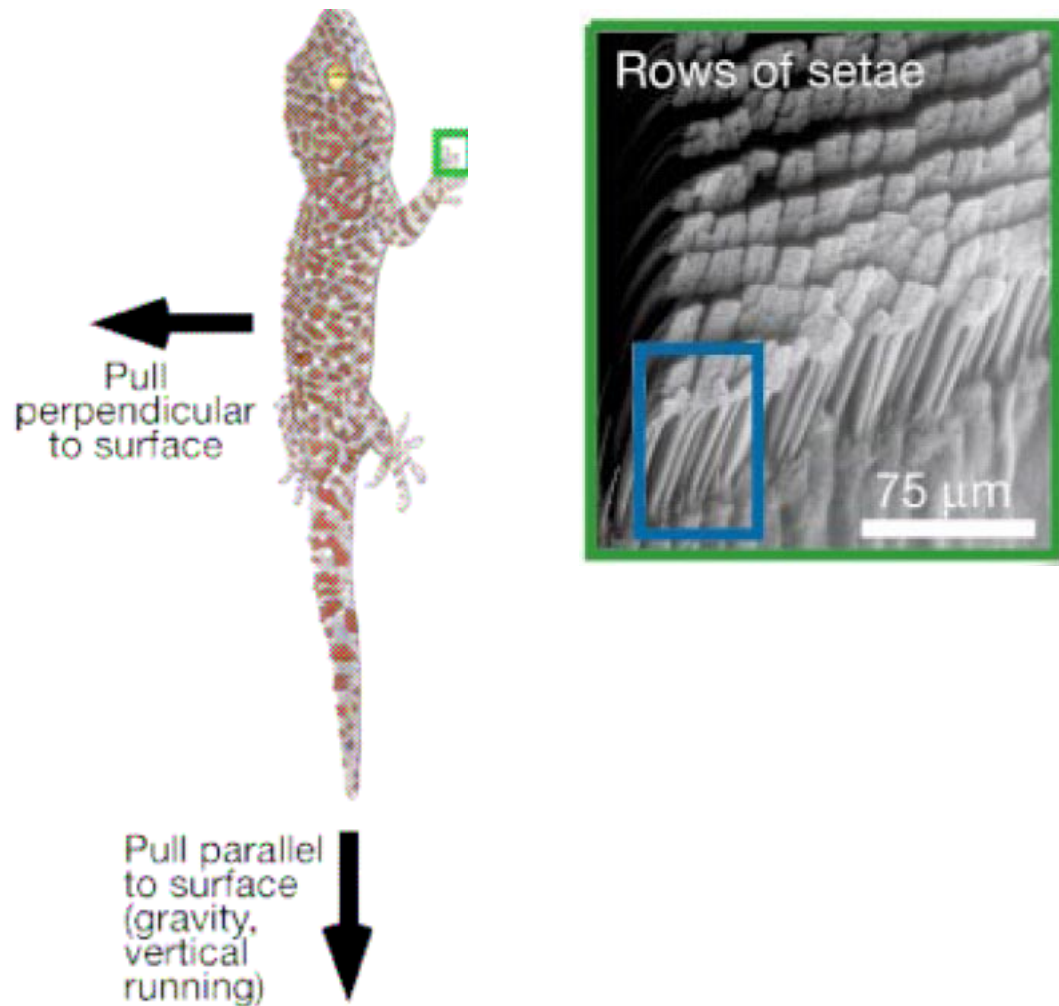


BIOMIMETIC MATERIALS

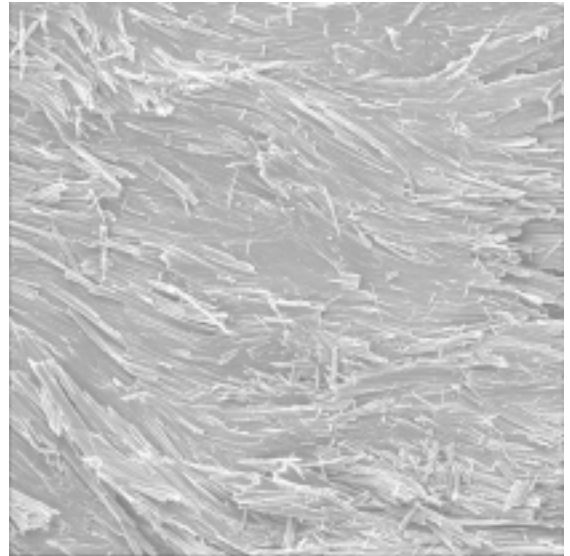
Biomimetics is concerned with developing materials or devices that are inspired by or based on similar natural systems.



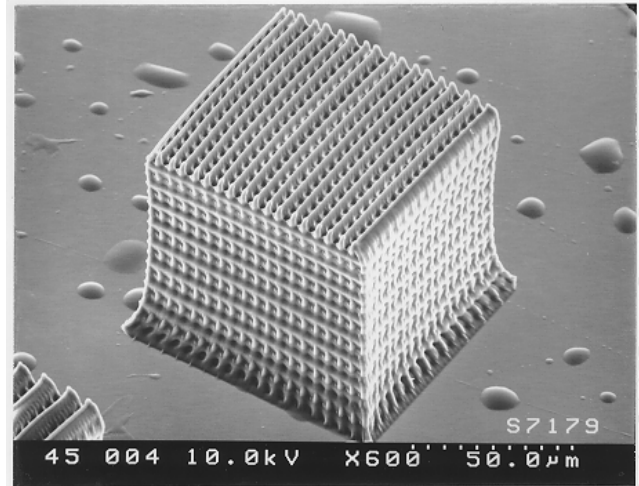
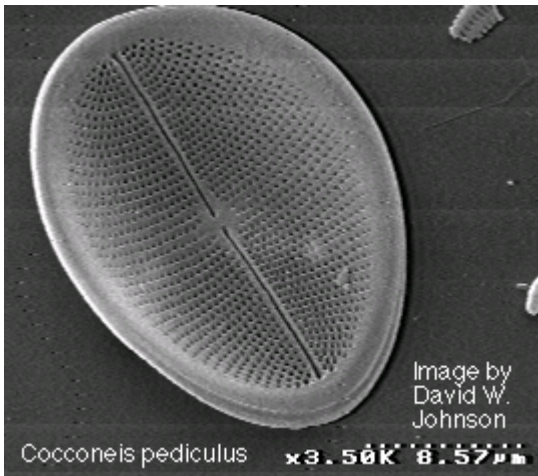
The iridescent color of a Morpho butterfly wing and an electron micrograph of the structure showing layers like a multi-level parking lot. We are trying to find ways of making artificial iridescent colors, something like this makes the color-shifting inks on the \$20 bill.



The Gecko sticks to the wall by rubbery setae, like toothbrush bristles, on his feet. This is a bit like how 3M's Post-It notes work but we could exploit this more where we need good adhesion. From an article in Nature magazine in 2000 by engineers from Stanford and Berkeley.



A jade pendant and its fibrous microstructure. There would be many more applications for ceramics in engineering, as pistons in engines for instance, if they were as tough as jade. We don't yet know how to get this fibrous structure into synthetic ceramics.



A silica marine diatom and a "logpile" made by microstereolithography by Joe Perry at Georgia Tech. We are slowly learning how to make structures as fine and elegant as those found in nature.