Carbon Nanotubes Help Mend Bones

Japanese scientists have discovered that carbon nanotubes could help to speed up the recovery of broken bones.

CNTs placed in contact with damaged bones not only helped to regenerate bone tissue but also reduced inflammation during healing. Measurements taken as the new bone was forming revealed that the CNTs become integrated into the bone matrix and appear to act as a starting point for new bone tissue to begin to grow.

When the CNTs were used in conjunction with a bone morphogenetic protein (BMP), commonly used to facilitate bone regrowth, the production of new bone material was accelerated even further.

Gripping secrets of ivy revealed

Researchers at the University of Tennessee have discovered the secret behind the ivy plant’s amazing gripping abilities – they appear to secrete nanoparticles that help them grip to surfaces.

Microscopic rootlets sprouting out from the stems and secrete a “little yellowish matter”, as first described by Charles Darwin in 1876.

Atomic force microscopy has now lifted the lid on the yellowish matter and revealed that it contains uniform particles 10nm across. The researchers believe the nanoparticles are produced inside the stem and then secreted out through the rootlets.

The research team is now working out the mechanism by which the ivy produces nanoparticles and hopes to work out exactly how they help the plant stick to surfaces. They will also investigate whether they could use ivy to produce other nanoparticles.