



## Biomimicry Leads to Award-winning 'Industrial Velcro'

The humble clam, and the way it attaches itself to rocks with incredible force, was the inspiration for the invention that won the 2008 Grand Final of the ABC's *New Inventors*.

Queenslander **Dean Cameron** won the Grand Final for his invention Joinlox™, which is an alternative to traditional joining methods such as nuts, bolts, screws, welding or gluing that has been compared to "industrial velcro". The new technology can be used for a wide range of applications, from the construction of tanks and boxes to electrical enclosures, large pipes, bridges, and even mission-critical aerospace projects.

"Clams and other shellfish can attach to rocks with incredible force. The way they do this is by locking many tiny "hooks" on the ends of byssus threads under tiny overhangs and crevices in the rocks they attach to. They literally wedge themselves onto the rocks and you have to break the rock to get them off. This converts the shear forces into tensile and flexural forces just like in the small hooks on the Joinlox™ castellations.

"The technology saves a lot of materials and energy for mechanical assembly, and dramatically saves time. It also saves transport costs because it means that products, like



Dean Cameron with Jenny Allen at the 2007 Asian Innovation Awards

water tanks, can be stacked and transported, then assembled on site without the need for specialist equipment or expertise," said Cameron.

Dean Cameron had previously been recognised on ABC's *New Inventors* for his Biolytix® Sewage System, which uses worms and natural decomposition in large plastic tanks to cleanse waste, which also uses 90% less energy than high-energy aerators. Biolytix® went on to win the Asian Innovation Award in 2007.