Award winning research offers hope for back pain sufferers

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A University of Manchester engineering student has scooped a top industry prize for research that could bring relief to thousands of back pain sufferers.

Rachael Ambury scooped The Morgan Crucible prize for the Best Materials Student in the annual Science, Engineering and Technology (SET) Student of the Year Awards.

Her final year project, which focused on tissue engineering and examined how special braces or 'scaffolds' could be used to treat slipped discs and other back problems, received glowing praise from the panel of judges.

The spark of inspiration for Rachael's work came from a PhD student, who was working on a project on back pain. The condition is reported to affect two out of three adults at some time in their lives and it is estimated UK industry loses billions of pounds as a result.

Employing an engineering process known as electro spinning, Rachael produced a series of 'bioresorbable' polymer scaffolds, which can be surgically implanted to hold tissue together, helping cells repair and re-grow.

Using these bioresorbable scaffolds, which dissolve naturally over time, reduces the cost of treatment and allows the patient to recover quicker.

As part of her work, 22-year-old Rachael looked into the physical and biological impact of using different types of scaffold.

She was nominated for the prestigious Morgan Crucible award by her tutors in June 2006. After making the three-strong shortlist, Rachael was invited down to London at the end of September, to discuss her project with the judges.

Rachael collected her prize at a swish black-tie ceremony at the Royal Courts of Justice.

Although her research has not yet reached the clinical stage, she hopes that other University of Manchester students will pick up the gauntlet and take her award-winning work further.

"It's fantastic to have my final year project recognised at a national level and to be supported by the University," said Rachael. "I would like to thank the World Leadership Forum and Morgan Crucible for supporting engineering and science with this award."

Professor Bob Young, head of The University of Manchester's School of Materials said: "We are delighted that Rachael has won the prize. She has been an enthusiastic and hard-working student throughout her course and deserves the success.

"This is the third time in the last five years that one of our graduates has won the SET award in the face of strong competition from students at Oxford, Cambridge and Imperial College in London.

"We are also very pleased that Rachael has decided to stay on with us to continue her studies and undertake a PhD in the important area of biomedical materials science."

In awarding Rachael the accolade, judges from the Institute of Materials, Minerals and Mining commented: "Rachael presented a project containing high quality technical which is highly relevant and valuable to current medical practices.

"Rachael showed a maturity of approach in both her scientific work and her dealing with colleagues.

"We feel Rachael will make a great ambassador for materials science and will influence all whom she meets."

Source: University of Manchester