



***THE Awards 2019 – Research Project of the Year: STEM***

Institution/Nominee	University of Portsmouth
Title	Turning the plastic tide
Key personnel	Professor John McGeehan
URL	<a href="https://www.port.ac.uk/research/research-features/mutant-enzyme">https://www.port.ac.uk/research/research-features/mutant-enzyme</a>
Submission	<p>Plastic pollution is reaching crisis level. Of the 1 million plastic bottles sold every minute across the globe, only 14% are recycled. The vast amount of unrecycled plastic that ends up in our oceans contaminates marine ecosystems and harms ocean life. A huge part of the problem is the plastic used in drinks bottles: polyethylene terephthalate (PET). It currently takes hundreds of years for PET to break down naturally in the environment.</p> <p>But now a team – led by Professor John McGeehan, Director of the Institute of Biological and Biomedical Sciences at the University of Portsmouth – has created a new mutant enzyme that breaks down plastic bottles faster.</p> <p>Their modified version of the PETase enzyme – first discovered in a Japanese waste dump in 2016 – starts breaking down plastic in days. The discovery could revolutionise the recycling process and help solve one of the planet’s biggest environmental issues.</p>