Tackling the ocean's plastic problem through engineering

UCL Faculty of Engineering Sciences asked incoming 2020–21 students to spend some of their summer before starting university taking part in the UCL Ocean Health Challenge: to devise a world-changing idea that will reduce the amount of plastics entering the world's oceans.

By the end of August 2020, more than 250 prospective students across the faculty's ten departments had engaged with the course.

The innovative solutions proposed included a self-recycling bin, which scans and sorts rubbish to improve rates of plastic recycling, and a beach cleaning app that rewards people for collecting waste. Other participants proposed creating alternative materials using recycled plastics for the construction

◂ “In each case, we need to combine the need for conservation with a recognition that we have to work with the local communities to fairly share the costs and benefts of human use of the areas,” adds Professor Peter Jones (UCL Geography), who is leading the project. “Rather than assuming that MPAs are set aside from use, the guidance recognises that MPAs should be seen more as vehicles for promoting their integrated and sustainable use.”

locally sourced materials. The team then deploys the reef stars in extensive webs that stretch across large areas of dead coral rubble.

“These webs of Reef Stars stabilise loose rubble and provide a strong platform on which planted out coral can grow,” explains Ben Williams, (PhD UCL Centre for Biodiversity & Environment Research), who is developing acoustic sensors and using machine learning analysis to monitor the progress of the restoration. ▸