

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

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 industry and a machine that converts plastics into oil for reuse.

Helping to achieve
Target 14.1



Combining use and conservation of marine resources

Research by UCL's Marine Protected Area (MPA) Governance project informed UN Environment guidance published in 2019 on ensuring the effective and equitable management of MPAs.

The guidance focuses on achieving conservation objectives, while fairly sharing the costs and benefits through participative approaches that respect local traditions, customs and cultures.

The guidance draws on 34 case studies from 15 countries across the world, each facing different challenges, from illegal fishing targeting endangered or threatened species, to rising levels of mass tourism damaging coral reefs. ▶

"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 benefits of human use of the areas."

Professor Peter Jones
(UCL Geography)

Promoting sustainable fishing in Greenland

Online game Tricky Trawling was among the outreach activities undertaken by UCL PhD student Stephen Long and UCL Honorary Research Fellow Chris Yesson to educate communities in Greenland about sustainable fishing, in collaboration with the Zoological Society of London.

Helping to achieve
Target 14.4



“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 benefits 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.”

Helping to achieve
Target 14.2

Helping to achieve
Target 14.5

Restoring the world's coral reefs

Researchers at UCL are part of the Mars Assisted Reef Restoration project, which is working with local communities, organisations, conservationists, scientists, governments and business to implement and support the restoration of the world's coral reefs.

At the centre of the restoration are ‘Reef Stars’, hexagonal structures made by local communities using

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

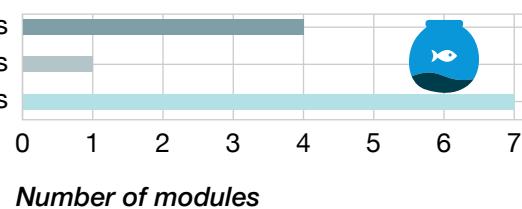
“These webs of Reef Stars stabilise loose rubble and provide a strong platform on which planted out coral can grow,” explains Ben Williams, (PhD UCL Centre for Biodiversity & Environment Research), who is developing acoustic sensors and using machine learning analysis to monitor the progress of the restoration.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

Taught modules at UCL supporting SDG14 in 2021–22

Source: PPMI, a partner in the UN AI Lab – more details in the [methodology](#)

UCL faculty

Life Sciences
Mathematical & Physical Sciences
Social & Historical Sciences



151

SDG14-related policy citations
in 2016–20

Source: Overton – see [methodology](#)

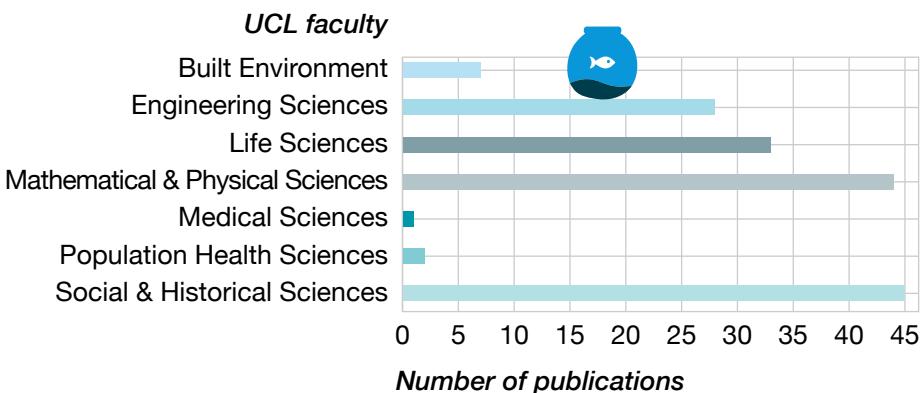
- After a few years, the coral completely overgrows and engulfs the Reef Stars, which become fully integrated into the reef structure. This creates new habitats for fish and invertebrates and encourages the settlement of additional native corals.

Helping to
achieve
Target 14.2



Number of UCL's research publications supporting SDG14 by faculty in 2016–20

Graph based on keywords
searches of publication databases
using a set of SDG keywords
developed by Elsevier. Read more
about the methodology used on
the [SDGs Initiative website](#)



31.5%

of UCL's SDG14-related
publications are in the top 10%
most cited for all research of
similar papers in 2016–20

Source: Scopus and Clarivate – see
[methodology](#)

75.3%

of UCL's SDG14-related
research publications are
international collaborations,
2016–20

Source: Scopus and Clarivate – see
[methodology](#)

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Read more on these activities
and other examples of how
UCL is helping to achieve
SDG14 are on the [UCL SDGs
Initiative website](#).