

Scientists call for reduction in plastic lab waste

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Three researchers at the University of Exeter are calling for action to cut down on the five and a half million tonnes of plastic being generated globally in the course of scientific research.

In a Correspondence article entitled 'Labs should cut [plastic waste](#) too' published in the journal *Nature* this week, they estimate that [bio scientific research](#) is responsible for 1.8 per cent of total global [plastic](#) production, waste which weighs the equivalent of 67 cruise ships a year.

Drs Mauricio Urbina, Andrew Watts and Erin Reardon estimated that the 280 scientists in their own bioscience department at the University of Exeter generated roughly 267 tonnes of plastic waste last year. On the basis of this, they worked out that the 20,543 biologically-oriented research institutions worldwide will be producing 5.5 million tonnes of plastic waste between them.

"As scientists, our day- to- day research relies on cheap, durable, disposable plastic. We are forced to maximize value of research budgets, and often rely on cheap disposable plastic equipment which means ignoring the environmental consequences," said lead author Dr Urbina.

Their article urges the research community and funders to prioritise the potential environmental impact of plastics over the cost of research and take measures to reduce single use plastic waste.

"When we started doing the calculations for this exercise, using data

provided by the University of Exeter Sustainability Office, I expected the contribution of research to the global plastic problem to be almost negligible - but we were surprised at how high the estimate is", commented Dr Reardon.

"At a time when governments are imposing charges for single use plastic bags and bottles, we think the scientific research community could be working towards reducing its dependency on plastic, and could be doing so without sacrificing scientific standards."

The authors say they are aware of the challenges faced in obtaining research funding and on keeping costs low. "However, we should not use disposable plastic items only on the basis of cost and the time saved. Does scientific research have to follow the market rules of producing peer-review papers at the lowest cost?" added Dr Urbina.

"I don't think it's possible to completely remove plastic equipment, for reasons of contamination and biological hazards, but there are definitely ways in which some items can be re-used. We want to challenge scientists to think about what they use and to see if they can reduce it. We see this very much as a starting point in an ongoing discussion," said Dr Watts.

The article proposes that funding agencies might incentivize greener practice with a budget to fund lab washing up and recycling facilities and by making it a requirement of the grant application process.

More information: 'Labs should cut plastic waste too' by Mauricio A. Urbina, Andrew J. R. Watts and Erin E. Reardon is published in *Nature* on Wednesday December 23 2015.

Provided by University of Exeter

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