

THE AWARDS 2022

Research Project of the Year: STEM

Institution name	University of Reading
Submission title or project name	Reducing aircraft emissions by improving transatlantic flight routes
Nominee/key personnel	Professor Paul Williams, University of Reading Professor Nancy Nichols, University of Reading Cathie Wells, University of Reading Dr Dante Kalise, Imperial College London Professor Ian Poll OBE, Poll AeroSciences Ltd
URL	https://www.reading.ac.uk/news/2021/research-news/pr854077
Submission	<p>The aviation sector needs to reduce emissions urgently to limit the future impacts of climate change, but technological advances to help decarbonise could be decades away. Until recently, all transatlantic aircraft were all forced to fly along the same routes (whatever their origin and destination) via the North Atlantic organised track system (OTS). This meant aircraft were burning more fuel and emitting more carbon dioxide than needed.</p> <p>Research led by Professor Paul Williams with PhD student Cathie Wells found that transatlantic flights could save fuel and reduce emissions by hitching a better ride on the jet stream. They showed that greater route flexibility for aircraft could deliver significant, inexpensive, and immediate emissions cuts. The study was prominently cited by air-traffic controllers as evidence for a trial to disband the OTS, which ultimately led to it being permanently abolished from 1 March 2022 for all flights at and below 33,000 feet.</p>