

# Irish scientists developing new material to increase shelf life of beer

September 18 2012

---



Richard Corker, SABMiller and Professor Jonathan Coleman, CRANN, TCD

Scientists at CRANN, the nanoscience institute based at Trinity College Dublin, have partnered with world-leading brewing company SABMiller on a project to increase the shelf life of bottled beer in plastic bottles. The new deal will see SABMiller invest in the project over a two year period.

Professor Jonathan Coleman and his team in CRANN are using nanoscience research methods to develop a new material that will prolong the [shelf-life](#) of beer in plastic bottles. Current plastic bottles have a relatively short shelf life, as both oxygen and carbon dioxide can permeate the plastic and diminish the flavour.

The new material, when added to [plastic bottles](#) will make them extremely impervious, meaning that oxygen cannot enter and that the carbon dioxide cannot escape, thus preserving the taste and 'fizz'.

The team will exfoliate nano-sheets of [boron nitride](#), each with a thickness of approximately 50,000 times thinner than one [human hair](#). These nano-sheets will be mixed with plastic, which will result in a material that is extremely impervious to [gas molecules](#). The molecules will be unable to diffuse through the material and shelf life will be increased.

As well as increasing the shelf life of the beer itself, less material is required in production, reducing cost and environmental impact.

Dr. Diarmuid O'Brien, Executive Director, CRANN said, "This partnership with SABMiller highlights the applicability of [nanoscience](#) and its relevance to everyday products. Improving every consumable from our lighting, our cars, our electronic devices, medicines, clothing and food and drink is being researched by nanoscientists worldwide. Ireland is amongst the world leaders in this area, ranked 6th globally for materials science. Because of the work like that of Professor Coleman and his peers, last year CRANN received over €5 million in non-Exchequer funding to progress research projects. Companies worldwide, like SABMiller, are taking notice. We are delighted to partner on this exciting project and look forward to its results."

Professor Coleman's technique which involves the exfoliation of boron nitride, and other layered materials, has been published in *Science*.

**More information:** Two-Dimensional Nanosheets Produced by Liquid Exfoliation of Layered Materials, *Science* 4 February 2011: Vol. 331 no. 6017 pp. 568-571 [DOI: 10.1126/science.1194975](https://doi.org/10.1126/science.1194975)

Provided by Trinity College Dublin

Citation: Irish scientists developing new material to increase shelf life of beer (2012, September 18) retrieved 22 June 2024 from <https://phys.org/news/2012-09-irish-scientists-material-shelf-life.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.