

## **Eco-friendly and stronger plastics**

Plastic products are generally made by injection moulding wherein molten plastic is injected into a mould to obtain the product's desired shape. A limitation of this process is the inability to utilize recycled plastic as a major constituent of the starting material without compromising the strength of the final product. In the United States, Prof. John Coulter of Lehigh University has developed a process to overcome this limitation. Adding vibration to the mix allows stronger plastic products to be made from almost half of recycled plastics.

This technique has now facilitated the recycling of more waste plastics. Furthermore, unlike other vibration techniques that need mould changes and/or costly machine, the new process vibrates the feed screw device employed to deliver liquefied plastic material into the mould. According to Prof. Coulter, plastics are strengthened through vibration because this turbulence changes their molecular orientation or alignment, mixing them more uniformly and allowing them to stretch out to take advantage of the entire length. *Contact: Mr. William Johnson, the United States. Tel: +1 (610) 7583 172; E-mail: [wjj0@lehigh.edu](mailto:wjj0@lehigh.edu).*