Graphene company partners with university to commercialise egg-unboiling machine

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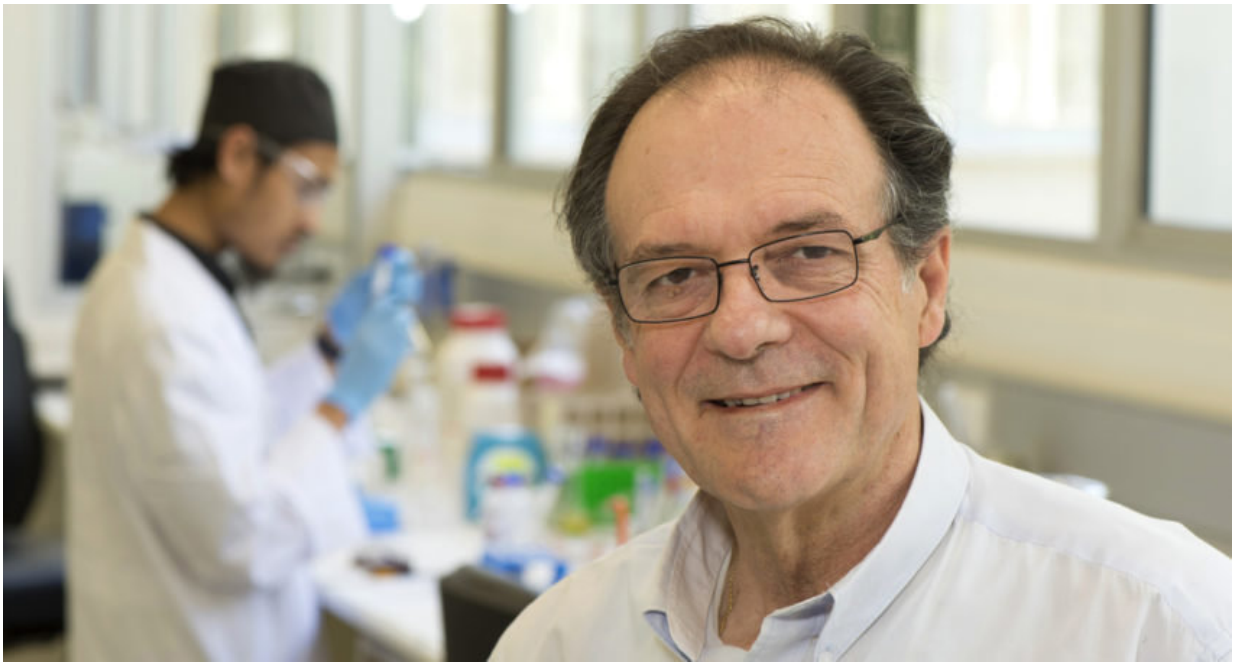

Professor Colin Raston invented the Vortex Fluidic Device, which is being commercialised to process high-grade graphene. Credit: The Lead Australia

Technology capable of producing high-grade graphite at a price and scale viable for use in energy storage devices, coatings and polymers is being commercialised following the establishment of a new Australian company.

The new company 2-D Fluidics Pty Ltd is owned equally by Flinders University and First Graphene. It will commercialise the Vortex Fluidic Device (VFD), which was invented at the South Australian university by Professor Colin Raston and his team.

In 2015, the researchers from the Flinders Institute for NanoScale Science and Technology in Adelaide were awarded an Ig Nobel Award for creating the Vortex Fluidic Device and using it to unboil an egg.

The technology has since been used to develop a range of novel nano materials without the use of harsh or toxic chemicals in the manufacturing process.

The new company will commercialise the VFD to produce a range of materials such as graphene and sliced carbon nanotubes.

The products are expected to be used in the plastics industry for applications requiring new composite materials and by the electronics industry for circuits, supercapacitors, batteries, and for research laboratories around the world.

First Graphene produces high quality graphene from high grade Sri Lankan vein graphite.

Graphene is the lightest, strongest, most electrically conductive material available and has been predicted to generate revolutionary new products in many industry sectors. But so far unreliable quality and poor manufacturing processes have prevented a sustainable industrial graphene market.

First Graphene managing director Craig McGuckin said the clean processing breakthrough would greatly reduce the cost and improve the efficiency of manufacturing these new high quality super-strength

carbon materials.

"This latest project promises to open an exciting growth path in the world of advanced materials production," he said.

"Access to this remarkably versatile invention will complement FGRs position as the leading graphene company at the forefront of the graphene revolution."

The key intellectual property used by 2-D Fluidics comprises two patents around the production of carbon nanomaterials, assigned by Flinders University.

Professor Raston said nano-carbon materials could replace metals in many products, creating new opportunities in manufacturing.

"The commercial availability of these materials using the VFD will open exciting possibilities in industry for low cost, environmentally sustainable production, particularly with 2-D Fluidics looking to scale-up production using our device's continuous flow technology," he said.

In the past three years the VFD has been hailed as a potential game-changer for applications across the sciences, from engineering to medicine.

Flinders University began collaborating with First Graphene last year and has been supported by a $1.5 million Cooperative Research Centre Project grant through the Australian Government's Advance Manufacturing Fund.

Provided by The Lead Australia