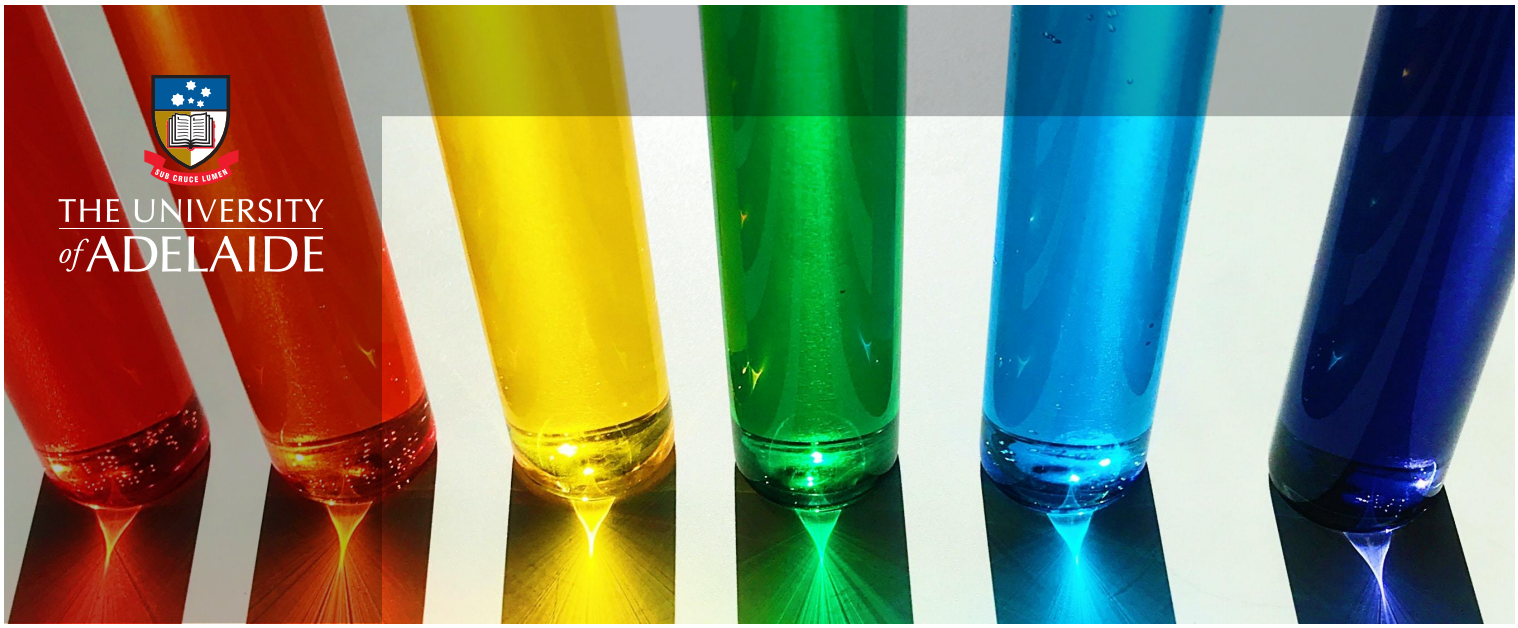

GLAS TECHNOLOGY

A method of glass production which creates a wide range of colour codes and dichroic colour effect.

Benefits

- Non-toxic.
- A platform technology that enables the creation of a wide range of colour codes and dichroic colour effect in any glass type.

Background

Coloured glass has been widely applied in many aspects of our lives, ranging from high-end perfume bottles, art installations, decorative objects, beverage bottles, jewellery, to architectural materials. Coloured glass manufacturers currently rely on the use of toxic heavy metals (cadmium, arsenic and lead) to produce a wide range of warm colour codes (yellows, oranges and reds). Rising public concern and increasingly heavy environmental regulations have driven many players out of business in the USA and are pushing those in Europe.

Technology overview

The GLAS technology is a method of forming metallic nano-particles in glass that creates evenly distributed metallic nano-particles with desired size in any glass type.

The method involves:

- Formation of a source of electrons trapped on the surface of the glass particles by crushing and grinding glass material into powder;
- Heat treatment of the glass powder to neutralise metal ions doped in the glass by the trapped source of electrons; and
- Aggregation and growth of the metal into nano-particles.

The present method allows the homogeneous distribution of metal nano-particles throughout the glass volume. The size and concentration of the nano-particles is controlled by the heat treatment temperature and duration, as well as the amount of metal ions.

The GLAS technology is at the proof of concept stage; theoretically it can produce any colour codes and also additional dichroic colour effect, with a few coloured samples successfully developed. Samples can be provided, or we can work with customers to develop specific coloured glass.

Applications

The intended market is glass manufacturers with a focus on high-end and eco-friendly products such as glass artists and perfume bottle manufacturers.

Opportunity

We are seeking a development partner, commercial partner, or financial investment.

IP status

The technology is protected by PCT Patent Application PCT - AU2018/051115

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