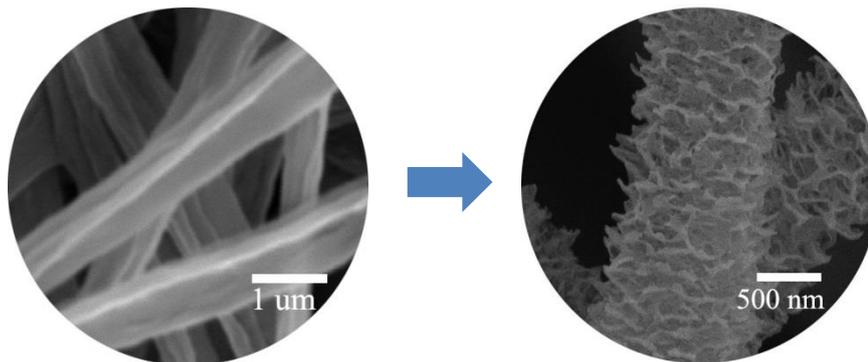


## Fabrication Technology for porous PLLA nanofibres

### BACKGROUND

Poly L-lactic acid (PLLA) and other biodegradable polymers are becoming more attractive in many fields including packaging, medical devices, biomedicine and the food industry. These compounds are produced from a number of methods from renewable resources such as sugarcane or corn starch. PLLA can be made into fibres or films with high tensile strength and melting temperature. These fibres can be manufactured into high quality biodegradable plastics and other compounds to degrade in the environment or within the body.

### THE TECHNOLOGY



This technology describes a technique of fabricating PLLA nanofibres that increases the surface area as shown by nano-pores and the 'rough' appearance of the nanofibres in the image above. This technique involves electrospinning followed by a simple post-processing step. The number of applications and potential industries interested increase due to the added properties of the 'rougher' fibres with high surface areas.

### KEY BENEFITS

- The porous surface allows other compounds to be bound to the surface either permanently or for slow release.
- The rough surface of the fibres allows for other compounds to be anchored to the fibres.
- The porous structure in nanoscale provides a substrate with ultrahigh surface area for functional materials, nano particles, drugs, enzymes, catalyzers, and so on.
- The fibres have also maintained the tensile strength and melting temperature characteristics of PLLA.

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## APPLICATIONS

- Air filtration to remove Particulate Matter (PM0.1, PM0.5, PM1.0 and PM2.5), tar, and other harmful components.
- For filtration to separate waste from valuable compounds or vice versa in water treatment, food and drink or industrial settings.
- Controlled drug release.
- Medical scaffold for bone or tissue growth and potentially organ regeneration.
- 3D printing including for medical purposes.
- For biosensors, bio-detector, dialysis.
- For wound dressing, healing and temporary adhesives.
- For food biodegradable food packaging.

## INTELLECTUAL PROPERTY

Patent application filed.

## OPPORTUNITY

Seeking partners to license the method of production to companies/industries in any related industry including (but not limited to) the food/beverage industries, medical industries, compound production and waste management.

## CONTACT

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