
Advanced Materials Research Group

project summary

Project Title	Characterisation of Coated Resorbable Phosphate Glass Fibres and Composites
Researcher	Liu Xiaoling
Project Summary	<p>Bioresorbable phosphate glass fibre reinforced polyester composites have been investigated as replacement for some traditional metallic orthopaedic implants, such as bone fracture fixation plates. However, composites tested revealed loss of the interfacial integrity after immersion within aqueous media which resulted in rapid loss of mechanical properties. The aim of this project is to produce better interface between phosphate glass fibres and polycaprolactone matrix so that the composite interface will retain integrity during application. Physical modification of fibres has been shown to be an effective method to improve fibre and matrix adhesion in composites. This project utilise magnetron sputtering to create roughen fibre surface thus to increase mechanical bonding between phosphate glass fibre and polycaprolactone matrix.</p>