The University of Nottingham
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Advanced Materials Research Group
project summary

Project Title	Scale-Up Manufacture of Novel Resorbable Fibres for Composite Production and Characterisation
Researcher	Chenkai Zhu Email: eaxcz4@nottingham.ac.uk Supervisors: Dr Yan Wang (UNNC); Dr Ifty Ahmed, Prof Chris Rudd (UNUK)
Project Summary	The aim of my project is to develop novel phosphate glass formulation with good biocompatibility, achieve its fibres in industrial scale and fabricate composites reinforced with these fibres. My first year research was finished in Sinoma Science & Technology Co. Ltd (China). I was focused on novel phosphate glass formulation development and fabrication of phosphate glass fibres (PGF) in multi-filaments (50 filaments for each strand). For my current research in UK, I will analyse the biodegradability and biocompatibility of PGF made in China firstly. Then, the emphasis on research will be conducted to develop composites using PGF and Poly lactic Acid (PLA). Based on the fibre products including yarns and roving I have achieved from China, novel composites with the different FE Models will be fabricated. After that, their mechanical properties are determined and compared with simulated model. Finally, the composite with the best mechanical properties will be utilised for resorbable bone plate fabrication in future.