

Matthew Skeats

PhD Student

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Matthew studied chemistry with a year in industry at the University of York, graduating with an MChem(industry) in July 2016. He undertook his Master's project at Merck in Southampton, working on liquid crystal polymer films for display applications. Following further work at Merck after graduating, he joined the BCFN in September 2017. He is an iCASE student working in collaboration with Pertinax Pharma, supervised by Dr Michele Barbour in Oral and Dental Sciences. His project concerns the mechanism, efficacy, biocompatibility, durability, and applications of a sustained efficacy antimicrobial nanomaterial. His other scientific interests include energy and sustainability.

“Chlorhexidine Polyphosphate: An Alternative to Antibiotics in Orthopaedic Bone Cements?”

Antibiotic loaded bone cements (ALBCs) have been successful in preventing and treating orthopaedic infections for decades, but their continued effectiveness is threatened by antibiotic resistance, and their use may promote resistance in some cases. In this project, bone cements loaded with a novel antimicrobial material based on the common antiseptic, chlorhexidine, are being investigated as alternatives to ALBCs. The aim is to establish whether these cements can demonstrate suitable physicochemical, mechanical and antimicrobial properties for orthopaedic applications, while avoiding use of antibiotics.