

Knowledge-based Design of Dental Surfaces to combat Oral Biofilms.

PhD Position available from Oct 2024, University of Liverpool, UK.

Supervisory team:

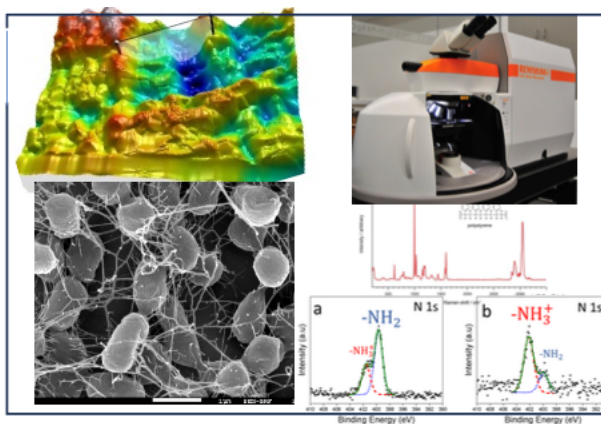
Professor R Raval (Academic supervisor), Department of Chemistry, University of Liverpool.

Prof Ian Prior (Academic co-supervisor), Molecular and Integrative Biology, University of Liverpool.

Dr V Slomka (Industrial supervisor), Unilever R&D Port Sunlight, Bebington

This 4-year BBSRC PhD studentship is a collaboration between University of Liverpool & Unilever R&D.

Oral diseases are among the most common noncommunicable diseases worldwide, affecting an estimated 3.5 billion people. There are major scientific challenges in understanding how protective technologies can be designed and fabricated so that oral biofilms can be controlled to prevent oral diseases. This interdisciplinary project will investigate the protective effect of natural materials that have gained increasing interest, due to their abundant availability and environmentally friendly and biodegradable characteristics. This project will aim to advance this technology by combining advanced imaging and spectroscopic techniques in both Physical Sciences and Life Sciences to understand the how modifications of dental surfaces can be created with precision control on model tooth surfaces and how bacteria and model oral biofilms interact and behave at these surfaces so that their efficacy and mode of action can be understood.



Combining advanced techniques to track science and technology.

The PhD student will be based at the Department of Chemistry, University of Liverpool and will work within the Open Innovation Hub for Antimicrobial Surfaces and the Surface Science Research Centre.

The PhD combines interdisciplinary science and global innovation. Unilever is one of the biggest Beauty & Personal care companies in the world, with a broad and diverse portfolio of brands, e.g. Signal, Dove, Rexona, Vaseline, Lifebuoy, serving billions of consumers across the globe. The Open Innovation Hub for Antimicrobial Surfaces at the University of Liverpool is at the forefront of translating scientific advances into innovation and is one of the four core partners of the £23M National Biofilm Innovation Centre (NBIC) (www.biofilms.ac.uk). The student will enrol in NBIC's **Doctoral Training Centre** which trains interdisciplinary PhD researchers at the Interface of Physical and Life Sciences to understand the behaviour of microbes at surfaces that are central to the global challenges of Antimicrobial Resistance (AMR), Health, Food Security, Clean Water and Energy.

Eligibility: Open to **UK students only** with the equivalent of at least a 2.1 Honours degree in Chemistry, Materials Science, Biophysics, Microbiology or Engineering. An interview will be undertaken with suitable candidates before an offer is made. Fees and a stipend for up to 4 years will be paid provided eligibility is met.

How to apply: Applicants should apply by e-mailing Lucy Jones (email: Lucy.Jones2@liverpool.ac.uk). You should submit an up to date CV and cover letter with names of at least 2 academic referees. **Deadline: 28 February 2024.** Candidates will be evaluated as applications are received, and the position may be filled before the deadline if a suitable candidate is identified.