**WEBSITE TEMPLATE**

**1. RESEARCH THEME/s; PRP; GI:**

Nanomedicine and Biotherapeutics – Nano-delivery of macromolecules

Pharmaceutical Materials Science and Formulation – Solid Dosage Forms

**2. PI DETAILS (Name, Pure Link, Twitter Handle & Photo)**

Dr Sheiliza Carmali

**T**: +44 (0) 2890 97 1805

**Pure Link:** [**https://pure.qub.ac.uk/en/persons/sheiliza-carmali**](https://pure.qub.ac.uk/en/persons/sheiliza-carmali)

**Twitter Handle:** @SheilizaCarmali

**A picture containing outdoor, person, tree, person

Description automatically generated**

**3. Research focus (80 words max)**Dr. Carmali's research sits at the interface of chemistry, biology, and material science to help engineer novel materials for biomedical applications. A strong interest is to use polymer-based strategies that can improve or add on new functionalities to biomacromolecules. Research has focused on the rational design of synthetic tools and protein-polymer constructs with enhanced stability and function, along with development of stimuli-responsive materials for protein drug delivery. Other areas of interest include the use of computational techniques to help understand and predict the impact of protein modification and/or protein – polymer interactions with the aim to help guide future experimental designs in biotherapeutics.

**4. Research opportunities** 40 words max  
Open to PhD applications in the field of

* Protein-drug delivery
* Biocatalysis
* Polymer-based protein engineering
* Biomaterials
* Stimuli-responsive or smart materials
* Bio-inspired and biomimetic systems for drug delivery

**5. Research students**

Name: Daniel Sedough-Abbasian  
PhD title: Development of lipid-based nanocarriers using melt extrusion for oral peptide delivery  
Years of Study: 2021-2024  
Country: United Kingdom

Name: Sophie Griffith

PhD title: Designing dually responsive nanoparticles for nucleic acid delivery

Years of Study: 2021-2024

Country: United Kingdom

Name: Jiaming Mu  
PhD title: Rationally designing nanostructured lipid carriers for biotherapeutic delivery  
Years of Study: 2022-2025  
Country: China

**6. Alumni - where are they now? (3 Max)**

Name:

PhD title:

Years of Study:   
Country:   
Current position:

Name:   
PhD title:   
Years of Study:   
Country:   
Current position:

Name:

PhD Title:

Years of Study:

Country:

Current Position:

**7. Public Outreach/ other achievements** (media links; DNA innovation links etc; other press)

**8. Key words**

Protein modification, polymer engineering, bioconjugation, rational design, stimuli-responsive, biomimetic systems