



Knowledge, skills and experience matrix of Strathclyde University for IBioIC

Strathclyde University www.strath.ac.uk

The University was established in 1796 as 'the place of useful learning' and this remains its mission today: to combine academic excellence with social and economic relevance.

As 'the place of useful learning' the University is committed to the advancement of society through the pursuit of excellence in research, education and knowledge exchange, and through creative engagement with partner organisations at local, national and international levels.

Bioprocessing [Contact: Linda Harvey; l.m.harvey@strath.ac.uk]

Bioprocessing, including fermentation processes and cell culture, microbial physiology in culture systems, real time bioprocess monitoring

Biomanufacturing [Contact: Prof Brian McNeil; b.mcneil@strath.ac.uk]

Biomanufacturing, biopharmaceuticals, real-time flux measurements in fermentations, stress in fermenter and bioreactor cultures..

Strain Stability [Contact: Paul Herron; paul.herron@strath.ac.uk]

Strain stability and the role of mobile elements in strain degeneration in antibiotic-producing streptomycetes.

Streptomyces growth and differentiation: genetic and environmental control. Time lapse microscopy of antibiotic-producing streptomycetes and automated image analysis.

Industrial Actinobacteria [Contact: Paul Hoskisson; paul.hoskisson@strath.ac.uk]

Industrial actinobacteria: *Streptomyces*, *Micromonosporas* and corynebacteria. Metabolic and antibiotic pathway engineering (especially anaplerotic pathways). Synthetic construction of antibiotic pathways.

Molecular Biology [Contact: Iain Hunter i.s.hunter@strath.ac.uk]

Molecular (now Synthetic) Biology of industrial microorganisms, especially antibiotic producers. Antibiotic discovery, process physiology and directed strain improvement.

Genomics [Contact: Nick Tucker; nick.tucker@strath.ac.uk]

Genomics, RNA-Seq Transcriptomics, Molecular Microbiology (*E. coli*, *Pseudomonas spp.*, *Streptomyces*), Antibiotic Efflux, Antibiotic Discovery, Synthetic Biology of regulatory systems, Protein engineering, Protein Biochemistry, Spectroscopy (IR, EPR, UV-Vis), Bacterial stress responses (particularly nitrosative and oxidative stress).

CMAC [Contact: Craig Johnston craig.johnston.101@strath.ac.uk]

EPSRC Centre for Continuous Manufacturing and Crystallisation. Vision: to accelerate the adoption of continuous manufacturing processes, systems and plants for the production of high-value chemical products to higher quality, at lower cost and more sustainably.

Process Analytics and Control Technology [Contact: Alison Nordon; Alison.nordon@strath.ac.uk]

Centre for Process Analytics and Control Technology (CPACT), and EPSRC Centre for Continuous Manufacturing and Crystallisation (CMAC) member. Extensive experience in non-invasive and in situ spectroscopic (NIR, MIR, Raman, uv-visible and NMR) and acoustic measurements, signal processing and chemometrics in the field of process analysis.

Pure and Applied Chemistry [Contact: Aaron Lau aaron.lau@strath.ac.uk]

Enzyme immobilisation and the physical chemistry of proteins [Contact IBioIC for Contact Details] Expertise in enzyme immobilisation, nanoporous material supports, and enzyme/protein assays relevant to biocatalysis; Development of novel immobilisation chemistries; Characterisation of protein secondary structure; Optimisation of the physicochemical conditions for biocatalysis.

Biocatalysis and Biotransformations. [Contact: Prof Peter Halling P.j.halling@strath.ac.uk]

Research work on several topics related to the use of enzymes or whole cells as industrial catalysts, especially on their action in unusual reaction systems (e.g. organic media, mainly solid systems, immobilized substrates), and the biophysical chemistry of their behaviour.