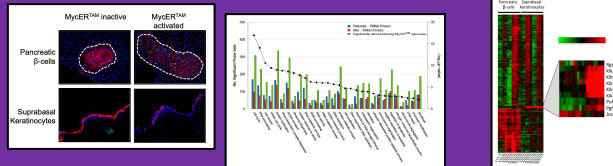


Research career and highlights

- 2004 – 2008: PhD in Mathematical Biology and Biophysical Chemistry, University of Warwick



- 2008 – 2010: Statistical/Mathematical Biologist, Wellcome Sanger Institute

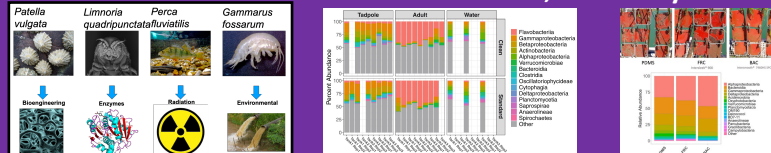


- 2010 – 2017: Bioinformatician, The Gurdon Institute, University of Cambridge, UK



- 2017 – 2021: Senior Research Fellow (Bioinformatics), University of Portsmouth, UK

- 2021 – Present: Reader in Genomics and Bioinformatics, University of Portsmouth, UK

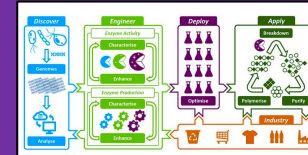


Expertise

- Application of next generation sequencing (Illumina and Nanopore) to a wide range of fields of study, e.g.:
 - Ancient DNA
 - Environmental microbiology
 - Clinical microbiology
 - Disease genetics
 - Virology
- Development of bioinformatics tools and resources
- Database management and pipeline design
- Development of novel 'omics assays

Current projects

- Centre for Enzyme Innovation (Funded by E3).



- STOP COVID-19 (Funded by MRC/UKRI/NIHR/Wellcome).



- REDPOL: Reduction of Pollution by endocrine disrupting compounds at source: innovative products for the commercial lab market (Funded by European Commission).

- Elucidating the biological role of i-motif DNA structures in vertebrate genomes (Funded by the Leverhulme Trust)

- Plus many additional projects, including:

- Biofilm Composition as a Predictive Biomarker for Prosthetic Joint Infection.
- Using the Future to Discover the Past: Genotyping the Mary Rose Crew and Genetic History of Cattle Farming.
- Development of a novel Nanopore-based diagnostic assay for paediatric Chrons Disease.
- Genome and transcriptome assembly in a wide range of organisms.
- 16S rRNA profiling, metagenomics and metatranscriptomics.

In-House Resources

- Oxford Nanopore sequencing:

- GridION X5 for high-throughput sequencing
- MinION plus high-spec laptop for field sequencing
- VolTRAX for hands-free sample prep

- Computing

- Bioinformatics high performance cluster
- Analysis pipelines for a wide range of sequencing types

- Library-prep equipment:

- E-gel power snap
- Denovix DS-11 spectrophotometer
- Qubit 4 Fluorometer
- Agilent 4150 TapeStation