University of BRISTOL
Newcastle University
THE UNIVERSITY of EDINBURGH
NML UK NATIONAL MEASUREMENT LABORATORY FOR CHEMICAL AND BIO-MEASUREMENT HOSTED AT LGC
UKRI UK Research and Innovation

CYBER

CYANOBACTERIA ENGINEERING FOR RESTORING ENVIRONMENTS

Cyanobacteria Engineering for Restoring Environments (CYBER) is a new UKRI-funded Engineering Biology Mission Award that aims to: **develop the foundational multidisciplinary tools needed to de-risk environmentally focused engineering biology and ultimately support its future deployment into real-world ecosystems.** We want to find ways to make a real positive impact on the environment by combing our growing capabilities in engineering biology and AI with our understanding of ecology and natural environments. The project spans the Universities of Bristol, Newcastle and Edinburgh, with the National Measurement Laboratory (NML), Cultivarium, Basecamp Research, Gitlife Biotech, Bactobio and NIST acting as key partners to deliver this vision.

JOIN THE TEAM

If the goal of CYBER resonates with you, then apply to join our team! Postdoctoral positions (PDRAs) are available across all aspects of the project and successful applicants will become **part of a passionate and highly multidisciplinary team**; they will **work collaboratively** with renowned engineering biology, AI and ecology researchers; and have the **opportunity to take on leadership roles** within the project, shaping how engineering biology can positively impact our environment. For more details see our website below.

PDRA 1: Ecological windtunnels   with **Chris Clements** (University of Bristol)

Lead the development of ecological wind tunnels that better mimic real-world complexity to assess the safety of our engineered organisms and the ecological interactions affect their performance.

PDRA 2: Genetic tools for cyanobacteria   with **Thomas Gorochowski** (University of Bristol)

Help to develop a new generation of genetic tools, parts and devices for cyanobacteria using advanced high-throughput assays that blend large-scale genetic assembly, cell-sorting, and nanopore sequencing.

PDRA 3: Data-driven genetic design   with **Diego Oyarzún** (University of Edinburgh)

Accelerate our ability to reliably reprogramming cyanobacteria by learning from the vast and diverse experimental data sets generated by the CYBER team using advanced AI and machine-learning methodologies.

PDRA 4: Cyber-bio security   with **Natalio Krasnogor** (University of Newcastle)

Improve the traceability of engineered cells in natural environments by designing robust genomic barcodes and using spatial sequencing to track cells in complex environments and ensure their long-term trustworthiness.

PDRA 5: Cyanobacteria reprogramming   with **Yulia Yuzenkova** (University of Newcastle)

Genetically insulate engineered elements from the native genome, investigate their spatial expression and intergeneration stability and equip bacteria with inducible buoyancy and magnetic properties to aid their removal.

ENGINEERING BIOLOGY + AI + ECOLOGY

LEARN MORE AT:
CYBER-MISSION.GITHUB.IO