



**Project Code:** DLA\_DTP\_2026\_04

**Main Supervisor:** [Professor Michael Ginger](#),

**Co-Supervisor:** [Professor Chenyu Du](#), [Dr Jane Harmer](#)

AI will be used to survey a wide-ranging literature relating generally to microbial culture or nutrition and, based on data obtained, refine optimal culture parameters. Selection criteria: fast growth, high cell concentration; high waste removal capacities. Benchmarking: against microalgae typical for environmental remediation potential.

### Project Introduction

Euglenids are ubiquitous, if little-studied, flagellate, phototrophic, heterotrophic, and mixotrophic protists, rich in biological curios. Collectively, tolerance of wide-ranging environmental conditions renders euglenids highly attractive for biotechnology, including biofuel production and bioremediation<sup>1</sup>. Prime taxon *Euglena gracilis* is already grown commercially in North America and South Asia for preparation of healthcare and food products.

Here, CO<sub>2</sub> and organic nitrogen waste will serve to cultivate sustainable (or circular) euglenid platforms for isolating dyes or harmful industrial side-products from waste-water and generating hydrolysable biomass for N-rich yeast medium or biofertilizers. The project is novel and will utilize newly purchased, strategic EPSRC-funded equipment.

**Months 12-30:** (i) genetic manipulation of euglenids to enhance dye and/or waste product uptake (introduction/modification of plasma membrane transporters and enzymes for downstream metabolism representing initial target gene products for the project); (ii) optimization of extraction/purification from target euglenids of toxic heavy metals and/or dyes; (iii) range-finding optimization for the application of hydrolysed biomass as N-rich, thus high-value, yeast medium and/or biofertilizer<sup>2-3</sup> (with respect to biofertilizer potential, there is considerable potential to collaborate externally for pilot plant growth studies).

**Months 30-36:** thesis writing and final, gap-closing data acquisition. Timings for the project details are indicative.

### Project Details

**Months 1-12:** newly installed, precision bioreactors will be used to establish parameters for batch cultivation and maximal yield of 3 target euglenid algae from waste starting material. Target euglenids: *Euglena gracilis*, the 'classic' euglenid, mixotrophic, facultatively anaerobic, genetically manipulable; *E. mutabilis*, extremophile, acid mine drainage-resident and very heavy-metal tolerant, requires co-culture with *Talaromyces* sp. and *Acidiphilium acidophilum*; *Rapaza viridis*, recently characterised, kleptoplasmic and genetically manipulable.

<sup>1</sup>*Biology Open* doi:10.1242/bio.059561.

<sup>2</sup>*Green Chemistry* doi:10.1039/D4GC01890G.

<sup>3</sup>*Waste Biomass and Waste Valorization* doi.org/10.1007/s12649-026-03488-0.



From 'Waste-to-Remediation-and-Biofertilization' via Euglenids  
 EPSRC funded PhD studentship with full fee waiver and £21,805 pa stipend (2026/27 rate)

### Project-specific entry requirements

Minimum of an upper second-class Honours degree and/or MSc (at merit, ideally distinction) in Chemical Engineering, Chemistry, or a relevant life science (e.g. Biochemistry, Applied Biology, Biological Sciences).

### Further Information

This call is open to **UK Applicants only**.

Applicants should be of outstanding quality and exceptionally motivated.

The studentships are funded for 3 years (subject to satisfactory annual performance and progression review) and will provide for tuition fees and a tax-free stipend paid monthly.

Please note that there are more projects than funded studentships available and therefore this is a competitive application process which will include an interview. Shortlisted candidates will be contacted for an interview in person or via Teams. After interview the most outstanding applicants will be offered a studentship.

Queries about the application process are welcome and should be emailed to [pgrscholarships@hud.ac.uk](mailto:pgrscholarships@hud.ac.uk).

Informal enquiries about this project should be directed to [Professor Michael Ginger](mailto:Professor Michael Ginger).

**Type of Award:** Doctor of Philosophy (PhD).

**Eligibility:** UK applicants only. First Class or Upper Second-Class Honours degree or equivalent in a relevant subject area, please refer to the entry requirements on the specific projects being advertised.

**Location:** Huddersfield.

**Funding:** 3 years full time research covering tuition fees and a tax-free bursary (stipend) starting at £21,805 for 2026/27 and increasing in line with the EPSRC guidelines for the subsequent years. Funded via the Engineering and Physical Sciences Research Council Doctoral Training Programme.

**Duration:** 3 years full-time plus 12 months writing up (please note that no funding is available for the writing up period).

**Closing date:** 28<sup>th</sup> April 2026

**Start date:** 1<sup>st</sup> October 2026

### Application details

- Go to the EPSRC webpage and download the [Expression of Interest Form 2026](#).
- Provide copies of transcripts and certificates of all relevant academic and/or any professional qualifications.
- Provide references from two individuals – please contact your referees and ask them to send them directly to [pgrscholarships@hud.ac.uk](mailto:pgrscholarships@hud.ac.uk) from their email address.
- Proof of eligibility – e.g. scan of passport photo page
- Completed forms, including all relevant documents should be submitted via-email to [pgrscholarships@hud.ac.uk](mailto:pgrscholarships@hud.ac.uk).

**Please note:** if you do not attach all the relevant documentation prior to the closing date your application will not be considered.