

PhD Student in Chemical Engineering: Biological Upgrading of Waste Plastics

Description:

The Ong Lab at Michigan Technological University (<https://pages.mtu.edu/~rgong1>) is recruiting a PhD student in chemical engineering for a funded project. This research is focused on microbial upgrading of products of chemically and/or thermally deconstructed waste plastic.

This project is part of a funded multidisciplinary project (BioPROTEIN: Biological Plastic Reuse by Olefin and Ester Transforming Engineered Isolates and Natural Consortia) that is focused on biologically converting waste plastics into higher value products. For this project, the research will focus on optimizing bioprocessing conditions to maximize yield and quality of higher value product streams. Long term, the results from this project will provide new approaches to deal with our global waste plastic crisis. This multidisciplinary project will provide significant opportunities for collaboration and close communication with researchers from multiple disciplines, including biology, bioengineering, chemical engineering, and materials science.

Support and Timeline:

A research assistantship will be provided that will cover tuition and stipend for the duration of the project. The preferred start date is spring (January) 2021, however exceptional candidates will be considered with a summer (May) or fall (August) 2021 start date.

Essential Qualifications:

- Coursework in mathematics (calculus, linear algebra, and differential equations), chemistry, and physics (e.g. fluid dynamics) and a bachelor's degree in a relevant technical or scientific field
- Ability and willingness to communicate, both in terms of written and oral presentations and initiation of and responsiveness to informal communication with supervisors and colleagues
- Initiative and willingness to learn and try new things

Desired Qualifications:

- BS degree in chemical engineering or a related field (bioengineering, biology, environmental engineering, chemistry, etc.)
- Prior coursework, research, and/or work experience with microbiology and/or bioprocessing (fermentation, anaerobic digestion, cell culture, etc.)
- Experience with statistical optimization experiments

If interested, please email Dr. Rebecca Ong (rgong1 at mtu dot edu):

- A detailed resume or CV
- A cover letter describing your relevant qualifications and interest in the project
- Contact information for three references

Suitable candidates will be contacted for an interview and will be encouraged to submit a formal application to the graduate school at Michigan Technological University:
<https://www.mtu.edu/gradschool/prospective/apply-now/>