Micropropagated BeadaMoss®
Sustainable Sphagnum

# Academic Spotlight

## Name:

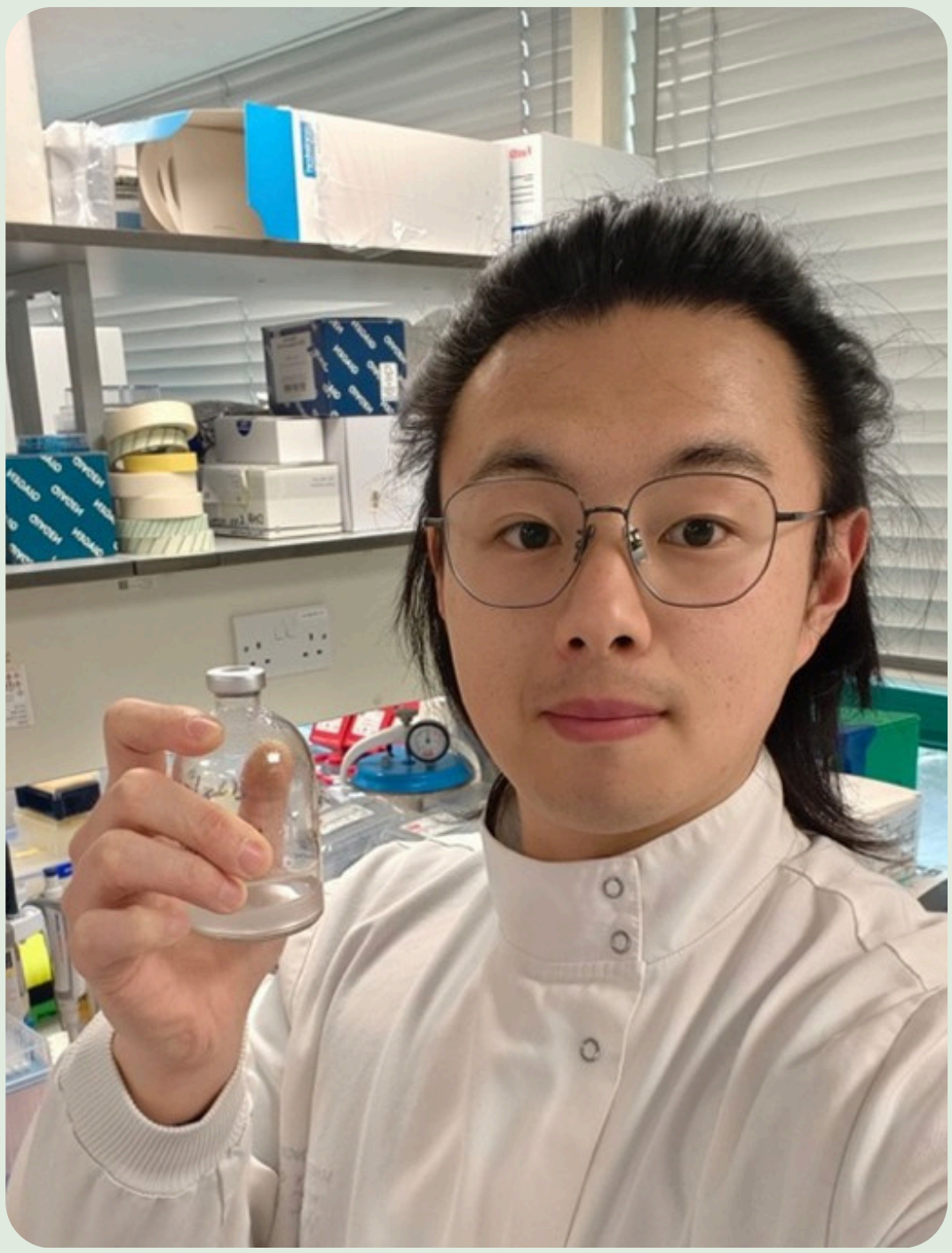
Jiacheng (Allen) Gao

## University:

University of Warwick

## Area of Study:

Environmental Microbiology



## Title of research project:

Mitigation of Methane Emissions from Peatlands – a Role for Micro-propagated Sphagnum-associated Methane Oxidising Bacteria?

## Can you tell us about your research in a couple of sentences?

My research looks at whether greenhouse-grown Sphagnum moss carries methane-oxidising bacteria, also known as methanotrophs. These bacteria can help reduce methane emissions, so I’m studying where they come from, how active they are, and whether they could support peatland restoration in a practical way.

## What first sparked your interest in this topic?

The first time I saw micro-propagated Sphagnum, I was immediately drawn to it. When I learned how important it is for peatland and wetland restoration, my interest grew even stronger. I also became interested in this area because peatlands are crucial for climate regulation, yet they are complex systems that we still do not fully understand.

## What is the biggest challenge you've faced in your research?

One of the biggest challenges is that these bacteria are difficult to isolate and culture in the lab, so progress often requires patience and several rounds of testing. However, I find the work exciting every day. Despite the challenges, I truly enjoy the process.

## What has your relationship been like with BeadaMoss?

I am very grateful that BeadaMoss has been willing to collaborate with the University of Warwick and place their trust in my work. The team has been very supportive, both practically and scientifically, providing samples and valuable insight into the cultivation system. Over the course of this collaboration, I've also built strong working relationships with members of the team, including Julie, Sadie and Tim, which has made the experience both productive and enjoyable.

## Any findings you can share with us?

One of the most interesting findings so far is that methane-oxidising bacteria are present in greenhouse-grown Sphagnum. We have also isolated two novel methanotrophic strains.

There are still many exciting experiments ongoing, and in the near future, I look forward to sharing more meaningful and interesting results together with BeadaMoss!

## What do your next steps look like?

The next step is to study these bacteria in more detail, both in the lab and in the field. This includes -additional genetic and physiological testing, as well as methane enrichment experiments with field samples.