

Can you investigate the effects of changing climatological conditions on pond microflora using flow cytometry?

“We will conduct scientific research with an academic at Cambridge in order to provide students with the opportunity to conduct a research project with the ultimate goal of getting the work published in an academic journal. The hope is that students will practically apply the knowledge they have gained in their studies, will experience scientific methodology in real applications, and will also have the experience of carrying out scientific experiments in conjunction with Cambridge University - an experience that under normal circumstances may not be open to our students.

Students will be instructed in and conduct an initial literature review, engaging the idea of climatological changes and bacterial changes in a static water system. This is poorly understood in comparison to flowing water systems such as rivers. It is important students understand what research has already been conducted and how their research project will inform and impact on future, relevant studies. Students will then engage with teachers and the STEM partner to inform a hypothesis based on their research. They will then be able to conduct experiments to test their hypothesis supported by teachers and the STEM partner.

In order to test the hypothesis, samples of water will be collected from our pond and be tested using a flow cytometer (donated to the school by our STEM partner) to count the number of bacteria in the samples. Students will have made a hypothesis about how changing climatological conditions will affect this. This research project will run over the academic year, meaning that the effects of climate over the year can be investigated and the hypothesis tested.” **Lead teacher**

“Since the start of our project, I have been able to visit the school three times. The interactions with the students have been great and they show great enthusiasm for the project. We have now succeeded in installing a flow cytometer in the school lab and will be able to run the first pond samples. I am looking forward to continue working with the school and seeing the first results coming out in the near future.”
STEM Partner

“It is an exciting opportunity that the Royal Society has provided us with. It is amazing that we have the opportunity to work with a flow cytometer which generally would not be possible until graduate level.”
Project student