



Uppsala University
Department of Ecology and Genetics
Erken Laboratory

Uppsala University Summer Science Camp in Ecosystem Science

For twelve years, the research school has been held at the Erken Laboratory and the students have been recruited from Sweden, Estonia, Lithuania, Latvia, Finland, Poland, Belarus, Russia and Ukraine.

In 2020 we arrange the course for 12 students from schools all over Sweden.

The research school consists of lectures, practical exercises and study visits, but foremost by a 100 hour long research project. The students will learn how to work scientifically and cooperate by performing the projects in pairs, supervised by researchers or PhDs from Uppsala University, SITES or a partner University – and that is why you have received this letter.



We are now looking for researchers, PhDs and graduates with interesting research going on who are interested in creating and supervising one or two projects at the science camp this summer. You can choose if you wish to stay at the Erken Laboratory for the whole period of the course (15/6-3/7), or just be present some of the days and be available for the students by phone, Skype or e-mail. We can offer room and board for the time you choose to spend at the field station, and will also be available to assist in transporting, caring for equipment and any practical matters that can occur during the project.

In the weeks before the start of the camp we will supply the students with a list of different projects that they can choose from. As a supervisor, you would need to provide us with a short presentation of your projects (example at the end of this invite), by the 30th of April. That will give us enough time to prepare both the students and to make sure the proper sites and equipment is available.

The Erken Laboratory is situated by Lake Erken and specializes in limnology, but the laboratory and the surroundings can be used for many different fields of science, so please contact us if you have questions and we will try to find sites where your project could work.

PhDs from the Department of Evolution and Genetics can get teaching hours for participating in the project. There is a pool of 40 hours total, so if there is one PhD from IEG they get 40 hours. Two or more PhDs will split the hours between them.

The students that participate are very motivated and this is an opportunity to try out methods, get good data from field sampling and also for developing teaching skills!



To provide you with an overview of the course, here is the schedule in short:

First week

- Lectures:** Introduction to the science camp and special lectures about science and research in more general terms. There will also be introductions to field methods and lectures from all supervisors. Finally we will also go through how to write and present scientific projects.
- Project:** During the first week the students start reading about the projects, which are conducted in pairs. The students will also make their own research plan for the following weeks, with assistance from the supervisors.
- Social:** The first evening there will be a welcome dinner and teamwork activities. Later during the week there will also be a study visit to Uppsala.

Second week

- Lectures:** Lectures this week will concern a number of topics, based on what lecturers are interested in participating.
- Project:** During this week most of the work on the projects is conducted. By using the best field methods, introduced by the supervisors during the first week, the students will learn how to manage your field sampling, collect data, work with the data and do the major part of writing.

Third week

- Project:** Finishing touches on the report, poster and preparation/performance of oral presentation.

If you are interested to act as supervisor during the summer science camp, or if you have any questions concerning the camp, possibilities for projects or available equipment, please contact Maja Pelve (maja.pelve@ebc.uu.se) or Pia Larsson (pia.larsson@ebc.uu.se).

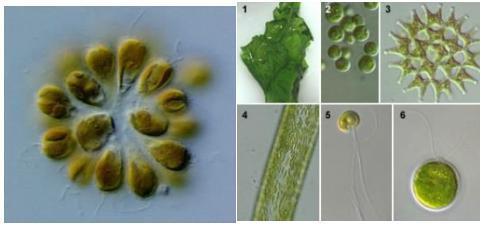
We look forward to lots of interesting project suggestions!

All the best,

Maja Pelve
Project assistant
Uppsala University Summer Science Camp 2020



The diversity of phytoplankton – how many species are there in the water?



This study is pertaining to the morphological classification of freshwater phytoplankton, which could be used to assess the water quality.

Phytoplankton constitutes the main group of primary producer in the aquatic environment. Due to the reason that phytoplankton community could keep track of the environmental changes, for example, light, temperature, nutrient availability and grazing pressure from zooplankton. They are classified into groups by the type of pigments which are used to perform photosynthesis. The diversity of phytoplankton in the lake could be used as the indicator for the water quality for the reason that certain species have its optimal conditions to grow and live.

Firstly, we will go out to get phytoplankton samples from the lake water. Then in the laboratory, the method using in this project is Utermöhl technique, the basic procedure for counting algae is to fill a counting chamber with preserved sample, which is fixed using lugol's solution, after a period of settling, identify and count the cells under the inverted light microscope simultaneously.