

PHYSICAL CHEMISTRY DIDACTICS – PRELIMINARY SCHEDULE

Preliminary schedule for the workshop on physical chemistry education held in Gothenburg the 6th to 7th of March 2024.

WEDNESDAY MARCH 6 2024

13:15-14:45, Approaching the subject

This session will start with a few invited university teachers giving their view on how they approach their specific topic during lectures. After the initial lectures, a panel discussion will be held.

14:45-15:15 Coffee

15:15-, Activating students

This session will be devoted to “breaks” during lectures. Research has shown that student activation at regular intervals is positive for learning and can give an attention recovery break. However, not all appreciated teachers use student activities in their teaching. Furthermore, demonstrations are another type of “break” in a lecture, that also can visualize phenomena. Here we ask the question which type of break is best when teaching different topics. After an introduction to the topic will examples and discussions on explicit student activities and demonstrations brought up by the delegates follow.

16:00, Problem solving in education

Lecture on recent research on problem solving in education.

17:30, Laboratories, new lab modules at different universities

New technology allows for new labs to be possible. Invited university teachers will go through new labs.

19:00 Dinner (if funds allow)

THURSDAY MARCH 7 2024

9:00 Curriculum on the bachelor, master, and phd level

This session will start with a summary of the curriculum in physical chemistry at the bachelor, master and PhD level at different universities in Sweden (A handout will be sent out before the workshop on which coursebooks that is used and what contents in those books are taught). This summary includes the collaboration with other subjects, such as math and physics. Also if only chemistry majors are attending the chemistry programs or if the same course serves multiple programmes, and if there is a lack of prior knowledge (e.g. in math or programming) that put a limit on the education in physical chemistry. This will be followed by a discussion on which topics that is appropriate and where they should be placed (1,2, or 3 cycle). Further, would it be beneficial to give recommendations in order to facilitate student exchange?

9:45 Coffee

10:15 Third cycle education, what is needed to make good phd programs?

This session will focus on 3rd cycle courses, it will start from the previous session where the curriculum of 3rd cycle education was discussed, that is if there is a curriculum that all phd students in physical chemistry should take (general overview of the field). Is this curriculum something that we as a community rather than the universities should offer (the organic chemistry community for instance give online courses)? Do we want to increase collaboration on the national level, and is there an appropriate way of giving national courses to avoid too much traveling?

11:00 How to increase the interest of physical chemistry at the master level, do we want to have a common strategy?

Problem formulation and round table discussions