

FKD3420 Molecules and Materials at Interfaces (3 credits)

19th of May 2022

Location: on KTH's main campus

8:30 - 9:00 Coffee / Tea

9:00 - 9:15 **Eric Tyrode**, "Welcome and introduction"

Chairman: Per Claesson

9:15 - 9:30 **Matthew Fielden**, "2MILab, The Molecules and Materials at Interfaces Laboratory"

9:30 - 10:00 **Eric Tyrode**, "Surface sensitive vibrational spectroscopy"

10:00 - 10:30 **Istvan Furo**, "NMR spectroscopy in porous systems. Transport and structural properties"

10:30 - 10:50 Coffee break

Chairman: Eric Tyrode

10:50 - 11:20 **Maria Cuartero**, "Charge Transfer Processes at the Interfaces of Ion-Selective Electrodes"

11:20 - 11:50 **Thomas Crouzier**, "Biopolymers at interfaces"

11:50 - 12:15 **Matthew Fielden**, "Methods for determining the electrokinetic nature of materials"

12:15 - 13:30 Lunch

Chairman: Matthew Fielden

13:30 - 14:00 **Cosima Stubenrauch**, "Emulsion Templating -Unexpected Morphology of Monodisperse Macroporous Polystyrene"

14:00 - 14:30 **Mark Rutland**, "Sticky drugs: How AFM imaging and force measurements solve production problems"

14:30 - 14:50 Coffee break

Chairman: Mark Rutland

14:50 - 15:20 **Ute Cappel**, "Studying the chemical and electronic structure of interfaces with photoelectron spectroscopy"

15:20 - 15:50 **Anastasia Riazanova**, "Introduction to Electron Microscopy and Microanalysis".

15:50 - 16:20 **Magnus Johnson**, "IR and Raman Microscopy: chemical imaging with μm to nm lateral resolution"

16:20 - 16:30 **Eric Tyrode**, "Summary"

To approve the course, the student will need to:

- Actively participate in the workshop
- Submit correct answers to questions provided at the workshop (one per presenter)
- Submit an individual, written account on how molecules and materials at interfaces are of importance in an ongoing research project. The report should include a description of the information obtained from the techniques being used and what additional relevant information could be obtained from other experimental approaches discussed during the workshop.

Submission deadline: 20th of June 2022.

Course Organizer / Examiner: Eric Tyrode (tyrode@kth.se)

To register, please send an email to the course organizer!