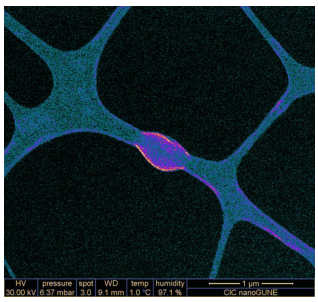
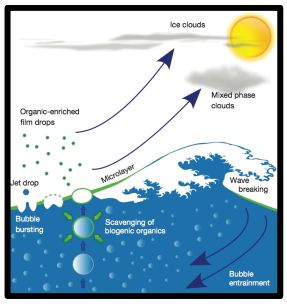
SUMMER INTERNSHIPS 2017

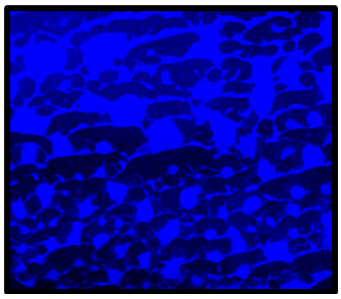
TITLE: Nanoscale water and nanoscale ice



Water nanodroplet on a carbon ribbon in our ESEM



Clouds from sea spray, T.W. Wilson et. al, Nature 525 (2015) 234



Water pools confined by nanorods, from our group, Langmuir 29 (2013) 14580

DESCRIPTION (Objectives, tasks, materials, equipment,…):

How do clouds form? This simple question is a major scientific challenge! We know that water droplets and ice nucleate at mineral dust and salt particles, but only recently it became clear that also biological micro- and nanoobjects should play a role. For the internship, we will investigate how water and ice nucleate on protein assemblies and on other nanoparticles. We have set up an environmental scanning electron microscope (ESEM) that works under conditions of ice and liquid water (-20ºC to +10ºC, up to 20 mbar water vapour). High-resolution imaging and real time movies will give us a nanoscale view of cloud formation.

SUPERVISOR: Ikerbasque Prof. Dr. Alexander Bittner, CIC nanoGUNE,

SHORT DESCRIPTION OF THE GROUP: Alexander Bittner's group focuses on self-assembly of biomolecules and water. We welcome interns in the group; they should be self-motivated, team players, and willing to learn a broad range of new experimental techniques from biochemistry to nanoscale physics.

TIMETABLE: 9:00-13:00, 15:00-17:00

COMMENTS: Internship duration from 1.5 to 2 months (to be discussed).
Applicants should send an email to jobs@nanogune.eu including their academic record.
More info: http://www.nanogune.eu/summer-internship
Deadline for applications: 5 February 2017

SUITABLE FOR: Physics or materials science students; also chemists and biologists with an interest in physics