

## Environmental molecular science: Phosphorus, arsenic and heavy metals



Elements such as phosphorus, arsenic and heavy metals play many different roles in the environment. Examples of issues are the bioavailability of heavy metals in sewage sludge, the binding of heavy metals to soil organic matter, fungal and bacterial mineralization as a possible way of decontamination or even extraction, adsorption on different mineral surfaces, and the removal of humus from drinking water by solar-radiation-assisted catalysis on nanostructured TiO<sub>2</sub> surfaces. We and the Swedish University of Agricultural Sciences (SLU) have initialized a cross-disciplinary collaboration aiming at addressing environmental molecular issues by combining competence in atomic-scale physics and chemistry with competence in the environmental issues.

You would participate in projects such as the pH-dependence of the surface activity of phosphate ions in water, or model studies of the binding of heavy metals to organic matter, i.e. humus or sewage sludge, using synchrotron radiation in collaboration with researchers from the Swedish University of Agricultural Sciences (SLU).

Interested? Contact Olle Björneholm ([olle.bjorneholm@fysik.uu.se](mailto:olle.bjorneholm@fysik.uu.se))!