Technical-scale experiments depicting the water cycle – UBA's experimental site

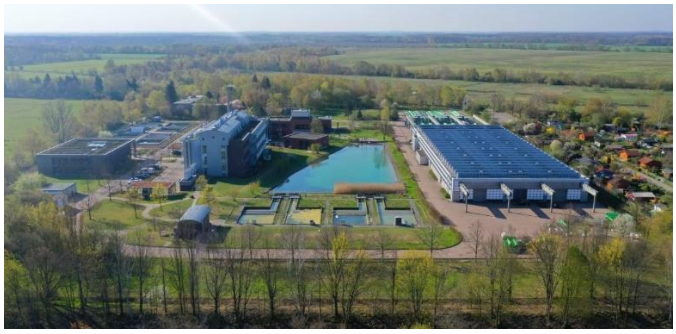

Photo: Kento Ruhl

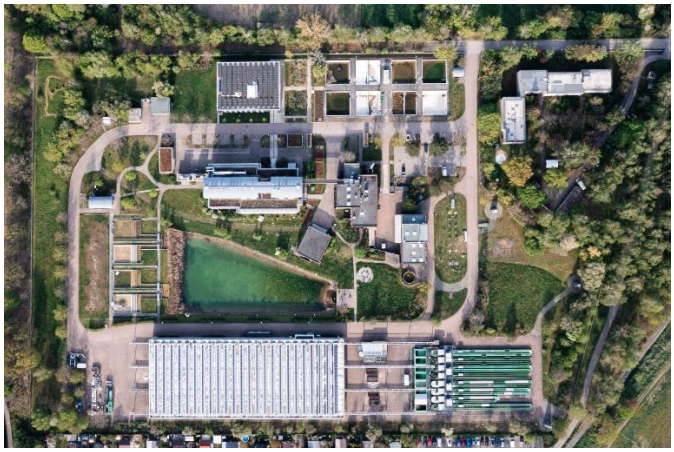

Photo: Aki Sebastian Ruhl

Experiments in the lab address selected, very specific combinations of conditions. Field observations are closer to reality, but conditions can scarcely be controlled, and quantifying budgets for substance retention and degradation is at best challenging. Technical-scale facilities can bridge this gap with near-natural but yet tightly controlled conditions, and those of the German Environment Agency (UBA, i.e. Umweltbundesamt) depict key elements of the water cycle. Research there combines all three scales – lab, technical-scale, and field data – to study both the ecological impact of harmful substances and their fate (retention, degradation) in the environment. UBA uses the outcomes to support policy development, but also to spot-confirm – or refute – producer claims about the safety of chemicals for their admission to the European market. Facilities that you will visit include:

- The artificial stream and pond simulation, consisting of 16 streams and ponds adding up to a total of 1.6 km length (half of which is indoors) where scientists investigate distribution and impacts of chemicals and biological agents in rivers and lakes;
- the ecotoxicology lab which, among other tasks, develops and standardises ecological tests (e.g. OECD test guidelines) on selected organisms (e.g. fish embryos, crustaceans, insects, vascular plants and algae) required by the legislation on chemical substances; currently it is involved in research on the impact of nanomaterial as well as munition dumped in the sea;
- the slow sand and riverbank filtration simulation with a 3500 m^3 pond and drainage system for studying the fate of substances, nanoparticles, virus, and cyanobacterial toxins as water flows through aquifers (in bank filtration and groundwater recharge basins (including enclosures)) or slow sand filters;
- the lysimeters for studying fate of substances as water percolates through soils (e.g. in the current joint research projects PU_2R for agricultural water reuse).

You will have the opportunity to talk to the researchers, to learn about the projects conducted at these facilities, to discuss the insights gained from experiments conducted at this scale, and to get to know the link between research, policy development and legislation.

Date: Thursday, 11 August 2022
Duration: 10:00 am – 16:00 pm
Number of participants: 20 participants max. In case we do not gather the minimum of 10 participants until June 15th, the tour will be cancelled.
Meeting point: Gate of UBA, Schichauweg 58, 12305 Berlin
Getting there: take the Berlin city train system (S-Bahn) to the nearest station (Schichauweg) and walk a quiet road along fields for about 20 minutes to the end of Schichauweg (if you have difficulties walking 1.6 km, please let us know so that we can organise a shuttle).
For further questions about the trip, please contact akisebastian.ruhl@uba.de

Registration costs: 0,00 €
Included: Visit to the UBA (German Environment Agency)
Not included: Berlin public transportation ticket – i.e. two times 3.20 €, food and beverage.
Deadline to register: 15 June 2022