Evaluating Non-EPA PAH and PASH Toxicity Using the Micro-EROD Assay

Research stay report

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My research stay at Goethe University Frankfurt was a very valuable experience for my academic and professional development. It gave me the opportunity to strengthen my practical skills in environmental toxicology and to gain deeper insight into laboratory methods used for the toxicological evaluation of polycyclic aromatic compounds.

The original plan for the stay included four main experimental parts: cytotoxicity testing, the Micro-EROD assay, the CALUX assay, and mixture testing. During the first phase of my stay, I worked mainly on cytotoxicity testing and on preparing the basis for the following assays. This involved practical tasks such as preparing samples and dilution series, setting up plates, working with controls, and evaluating whether the assays performed as expected. Through this work, I improved my understanding of how cell-based toxicity assays are carried out in practice and what is required to generate reliable results.

Beyond the experimental work itself, the stay also gave me a clearer picture of how research is organised in an academic laboratory environment. By being involved in the lab's daily routine and through discussions with researchers at Goethe University Frankfurt, I gained valuable insights into experimental planning, troubleshooting, data interpretation, and scientific exchange within a research group. This was an important part of the experience, as it helped me understand not only the technical side of the work but also the broader context in which scientific research takes place.

At the same time, the stay also showed me that experimental research often develops differently from the original plan. Some of the intended experiments could not be completed within the initial time frame due to practical difficulties in the laboratory, including contamination and technical complications. As a result, the main progress during the first phase of the stay was made in cytotoxicity testing, while the remaining assays had to be continued later. For this reason, an extension of the research stay was necessary in order to continue and complete the planned work. Although this affected the schedule, it was also an important learning experience and showed me how essential flexibility, patience, and careful problem-solving are in laboratory-based research.

Overall, my stay at Goethe University Frankfurt was highly beneficial. It allowed me to deepen my laboratory experience, broaden my methodological knowledge, and gain a more realistic understanding of everyday scientific work in a research environment. I am very grateful for the opportunity to complete this stay and for the support I received during this period.