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Eawag Seminar Invitation

Systems-based approaches to predict chemical hazard

Speaker

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When **September 20, 11.00 – 12.00 a.m.**
Where **Forum Chriesbach, room C20, Eawag Dübendorf**

Abstract

Several interrelated approaches and technologies have been developed to describe how chemicals cause adverse effects in humans and wildlife in an effort to support decision-making. These include systems biology to capture the complexity of organism function, global 'omics measurements such as transcriptomics, in vivo and in vitro assays that measure specific events, and frameworks such as the Adverse Outcome Pathway (AOP) that attempts to simplify and codify the events that lead to adverse effects of chemicals. However, these approaches and technologies are generally not integrated despite their complementary nature. As a result, it is difficult to apply transcriptomics in a decision-making context or to pair AOPs with more complex pathway information and valuable high content data. Here, strategies by which toxicogenomics data and systems biology information can be merged with AOPs to support decision-making will be presented. Using these approaches, transcriptomics, AOPs and systems biology can be applied to examine the presence and progression of AOPs to better understand the hazards of chemical exposure.