

Track 2 - Ecotoxicology becomes stress ecology: from populations to ecosystems and landscapes

2.01 - Big data analysis in ecotoxicology: how to get new information out of existing data?

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Many chemical and ecological data are collected under different research or monitoring programs. Merging different sets of data has significantly increased our ability to investigate and quantify how a multitude of stressors may potentially alter biodiversity. In those cases, many aspects need to be tackled, amongst all: 1. missing data, 2. consistency of data, 3. specificity, 4. temporality, 5. coherence of the data, 6. existence of gradient or reference sites. Due to the different aggregation and statistical methods as well as the increased computational power we can get more and more out of those datasets. In this session, we suggest to focus on meta-analyses of existing datasets, with a helicopter view on meta-analyses in scientific research in general and ecotoxicology more specifically. We welcome research stories focusing on the burning questions like: What should people be aware of when using existing data? What tools are available for researchers to assess existing data? How to interpret data that was not tailor made for the purpose of the study? In this session, we welcome all scientists who can present "theory" or "hands-on examples" of big data analyses to illustrate the power of existing data for answering long-lasting environmental questions.