

In modern health effects/toxicology studies a more holistic approach is applied. In this approach the totality of all exposures and stressors are taken into account compared to conventional single stressor (bio)marker-based studies.

Because of the development of a broad spectrum of analytical tools capable of detecting multiple exposures in one sample and the application of sensitive and specific techniques such as genomics, proteomics and metabolomics, we are now able to dissect out in detail the interplay between stressors and the organisms exposed.

These broad analytical tools generate complex and large datasets, which cannot be deciphered by conventional statistical tools. New bioinformatics tools are now being developed through the use of systems biology, artificial intelligence and machine learning.

Altogether, this brings us to concepts such as exposome, multiple stressors, big data and machine learning. In three short webinars we will try to introduce these developments and give 2 or 3 examples of each to uncover this new exciting world.

The webinars will be broadcasted from the auditorium PENTALFA at the Campus Gasthuisberg of the KULeuven :

21<sup>st</sup> October 2021: Exposome

4<sup>th</sup> November 2021: Big Data Management

2<sup>nd</sup> December 2021: Machine Learning

Each webinar will start at 11:00h and will end at 13:00h. Opportunity will be provided to ask questions to the speakers.

More details on the programme of each webinar and registration will follow later.