Assignment – Aggregate Exposure Pathway (AEP) module of the STOP

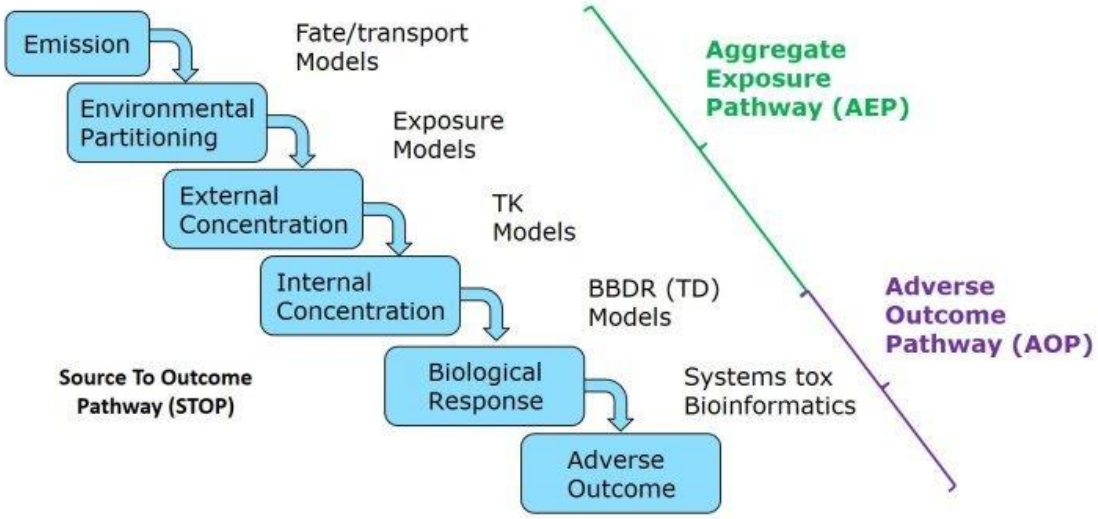

Figure1. Source to Outcome Pathway (STOP) represented by the Aggregate Exposure Pathway (AEP) and the Adverse Outcome Pathway (AOP). Abbreviations: TK-Toxicokinetic models, TD-toxicodynamic models, BBDR – Biologically based dose response models.

Assignments descriptions:

The assignment contains one theoretical and one practical (computational) task that will form the basis for discussion in the follow-up interview (2nd. Interview). The theoretical task (Task 1) is an opportunity for you to describe how your expertise and technical skillset can be used to develop the Aggregate Exposure Pathway (AEP) as one of two parts of the Source To Outcome Pathway (STOP) – see figure 1. This task should be presented as a powerpoint presentation (maximum 10 min.) during the 2.nd interview as basis for more in-depth discussion.

The practical task (Task 2) will provide you with an opportunity to demonstrate your coding and documentation skills. In this task, you are asked to provide code, coding documentation and share this by github (or similar repository) ahead of the interview. The candidate will have 4 working days to complete the assignment and dates for providing the last assignment will be agreed with the candidates and sent out in a separate email.

Task 1: Introducing your skillset and knowledge (ppt presentation, max. 10 min.).

Present your thoughts for how your past knowledge/experience and technical skillset (modeling and coding) can be used to expand the AEP part of the STOP (see figure 1). This

presentation can include a conceptual (theoretical) model for a workflow and/or your suggestions for concise computational workflow (i.e. data sources, programs, apps/packages) that allow capturing and handling (integrate) data, perform predictions (fate/transport, partitioning, external to internal modeling) and visualize the results generated by the individual steps of the workflow. Details about AEPs and AEP networks can be obtained from the supporting literature (see references for an introduction). The candidate is encouraged to seek additional information as part of the assignment.

References

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