Checking In on Adverse Outcome Pathways:
Evolving Development, Evaluation, and Application—CE PM08

Hands on Activity using the AOP Wiki

For this activity, presenters will walk you through an icebreaker activity and Use Case A during the main session. Then, you will select one of the other use cases (B or C) to work through on your own or in small groups.

You will be able to access the AOP Wiki and complete the exercises on any smartphone with web browsing capabilities, but you may also wish to bring a computer.

We will use the Slido participation platform to collect your answers. To access the Slido surveys and polls, visit www.slido.com and enter #AOP, or scan this QR code. The first exercise will be in the "Main Room".

Use Case Instructions: Read the scenario and then utilize information from the Adverse Outcome Pathway Wiki (aopwiki.org) to address the charge questions that follow. You can enter your responses in the Slido survey for the appropriate "room" (Use Case B or C).

If you are unable or don't wish to use Slido, you can also record your responses below; there may be opportunities to share responses after the break with the microphones in the room.

Use Case A: Effect-based environmental monitoring

Scenario: An investigator at University of Connecticut partnered with the city to screen house dust extracts using several cell-based biological activity assays. Samples from houses in one particular street had levels of PPARα antagonist activity that were 50 -old greater than most other houses in town.

Charge: Using information from the AOP-Wiki, are there any potential concerns for human health effects associated with this biological activity?

1. Explain what key information from the scenario you used to search the AOP-wiki and how your search was done.

2. Identify an AOP that supports your answer (include the title and its unique identifying number).

3. Identify a relationship (key event relationship) that provides strong (high) evidence supporting the AOP (include the unique relationship ID).

4. Cite examples of plausibility and empirical support for the relationship you selected.

5. Based on the information in the AOP, what type of effects might local health officials be on the look-out for in the population living on this particular street?

Use case B: Evaluating potential causes of an adverse observed phenotype

Scenario: The Miscellaneous State fish hatchery began observing high incidence of failed swim bladder inflation leading to decreased growth and increased mortality in culture after receiving a new lot of fish feed from their supplier. Analytical characterization detected contamination with 2-mercaptobenzothiazole (MBT). A survey of the literature finds that MBT is a potent inhibitor of thyroid peroxidase (TPO) activity.

Charge: Based on information in the AOP-Wiki does it seem plausible that MBT could be responsible for the effects observed?

1. Explain what key information from the scenario you used to search the AOP-wiki and how your search was done.

2. Identify an AOP that supports your answer (include the title and its unique identifying number).

3. Identify a relationship (key event relationship) that provides strong (high) evidence supporting the AOP (include the unique relationship ID).

4. Cite examples of plausibility and empirical support for the relationship you selected.

5. Based on the support provided by the AOP, should the state consider suing the supplier for losses? Explain why or why not.

Use-case C: Evaluation of epidemiological associations.

Scenario: An epidemiological study has associated high incidence of Parkinson's disease-like symptoms with the occurrence of chemical Z in the drinking water supply.

Charge: Based on information in the AOP-Wiki, is there any evidence that would support the idea that a chemical could cause the Parkinson's-like symptoms observed?

1. Explain what key information from the scenario you used to search the AOP-wiki and how your search was done.

2. Identify an AOP that supports your answer (include the title and its unique identifying number).

3. Identify a relationship (key event relationship) that provides strong (high) evidence supporting the AOP (include the unique relationship ID).

4. Cite examples of plausibility and empirical support for the relationship you selected.

5. Based on information from the AOP, what types of experiments could be designed to provide compelling evidence that chemical Z is actually responsible?