**Model assignments**

During the semester, you will sign up for a topic to develop your own model. You should work on it in teams of two people. The goals are to extend the didactic model 11.4 according to the topic you chose, to implement the extended model in R, to plot and interpret the results, and to do a local sensitivity analysis by changing the kinetic parameters and analysing the related changes in model results.

Developing your own model is mandatory. The oral exam will partly be based on your model. The submission itself will not be graded.

Part of the time of the next lectures and exercises will be devoted to get help on your model and ask questions. **Please make use of this offer!** You can also get help via email, if the time during the lectures and exercises was not sufficient.

There are **two deadlines** for submission of documents via email (to nele.schuwirth@eawag.ch and emma.chollet@eawag.ch):

You have to **submit** the **R-code** by **May 9th 2024** to get it checked by the teaching assistants (to avoid that you spend time on interpreting results, if the code has some bugs).

You have to submit the documents specified below by **May 24th 2024.**

1. A text file of **max.** 3 pages length excl. figures with:

- a short description of the model, especially regarding the changes compared to model 11.4,
- a short description and discussion of the simulation results,
- a local sensitivity analysis for selected parameters with a short explanation of the results for the two most interesting parameters

2. Final R-file(s) with the model implementation

3. Pdfs with plots of the simulation results and the sensitivity analysis. Please make sure that the plots are well readable and that they get across the key points that you want to highlight. You have to decide which lines you want to plot in which graph and you might have to change the size of the plots if needed.