

Nanocem CemGEMS web app v.0.6.0 hands-on training

Agenda of a video-conference on Feb.19, 2021 13:30 – 15:00 CET

Goal: To acquire simple technical skills for the efficient use of CemGEMS (<https://cemgems.app>)

Time	Objective	Topics
13:30 – 13:45	Part 1: Getting started	Simulation of Portland cement hydration using the modified Parrot-Killoh (mP&K) model. Exploring the process plots, the input recipe, the equilibrated and residual parts. Controlling presence and aliases of equilibrium hydrated phases in phaseAliases. Leaving CemGEMS, getting back to work, opening tutorial, providing feedback.
13:45 – 14:00	Part 2: Process simulations	Creating a recipe and a process for blending cement with fly ash and for hydration of such blended cement. Cloning the recipe for a different temperature, re-running the hydration process, comparing process outputs at different temperatures. Creating a process to plot a diagram for extreme leaching of cement in water. Creating a process to simulate the carbonation (CO ₂ ingress).
14:00 – 14:15	Part 3: Modifying processes	Modifying the process document in jsoneditor to add a removal of CaO. Cloning the recipe to “seasalt” and creating a sea salt attack process on cement. Creating a recipe on CEM-III-B::min template and a Hydration-MPK process on it. Editing the process document in jsoneditor to look at the impact of changing parameters of the mP&K and 5PL models react; re-running the process.
14:15 – 15:00	Q&A session	Questions (mainly How Do I?) and answers (mainly Follow me or DIY). Discussion of “good to have” features as a motivation for future development efforts and fundraising.

Disclaimer: This hands-on training is aimed at helping the users of CemGEMS web app to quickly acquire technical skills that allow them to use CemGEMS efficiently and to save time. This is not a dedicated training in cement chemistry, engineering or environmental footprint topics (such trainings will be performed separately by cement experts). The training will be recorded and posted as video-tutorials on the CemGEMS information and tutorial site (<https://cemgems.org>).

Monitor: For the efficient “follow-me” work style, please use a second monitor with a web browser window open. In this way, you will be able to perform in CemGEMS web app things that the instructor will do on a shared screen window in Zoom.

Registration: You have to register on CemGEMS web app to be able to use it; please, keep in mind that the registration requires a valid email account to receive the confirmation code. With 5% to 10% probability, the automatic email with the code may get into the email spam quarantine in your organization, so it may take up to 20 hours until you receive the code and complete your registration. Therefore, we recommend you (if not already done) to register before Thursday this week.

Nanocem CemGEMS Team