GAMM Juniors‘ Summer School 2021
Shape and Topology Optimization
Graz, July 26-30, 2021

This is a collection of some technical information that is relevant for both on-site as well as virtual participants (see also e-mail on July 21, 2021)

Technical tools and links

- All **lectures** as well as the **poster session** will be streamed via ***Webex*** using the following access data

  https://tugraz.webex.com/tugraz/j.php?MTID=mde5e5fe0a5eb8ff4eb3c500857c74956
  Meeting number: 121 496 2633
  Password: was sent to participants by e-mail (July 21, 2021)

  Please make sure that Webex is running on your machine (it typically works well using the Google Chrome browser or using the app, which unfortunately only works under Windows and macOS). This is also important for on-site participants in order to attend the poster session.

- For the **coffee breaks**, we will use the browser-based tool ***wonder.me***. This tool should work well in most web browsers. Our room can be accessed using the link and password

  https://www.wonder.me/r?id=b6896401-704e-4633-81cf-bfac200ffd5a
  Password: was sent to participants by e-mail (July 21, 2021)

  Also this is relevant for both on-site and virtual participants. We remind the on-site participants to bring a laptop and earphones.

- We have a ***TU Graz cloud*** where course material will be collected:

  https://cloud.tugraz.at/index.php/s/2dAFbH9aSoLcoZz
  Password: was sent to participants by e-mail (July 21, 2021)

Information on the courses and required software

All courses given by the three main lecturers will comprise lecture parts as well as hands-on/exercise sessions.

- M. Stingl:
  Here, the exercises consist of programming problems which should be solved using **Matlab** (or the open-source alternative **Octave**). Since there is not much time to work on the problems during the summer school the exercise sheets will be made available in the TU Graz cloud (see link above) some days in advance. In the last session on Wednesday, these problems are discussed in class without giving a full solution. Interested participants may still work on the problems after the summer school. Full solutions will be provided via the cloud approximately two weeks later.

- B. Wirth:
  Here, each of the four slots will begin with a lecture and end with a short exercise session. Most exercises will be pen-and-paper, however there might also be a programming exercise. For the latter, **Matlab/Octave** could be used, however any programming language with an

optimization toolbox is possible.

- K. Sturm:
  Here, the two sessions on Tuesday will be theoretical lectures while the third and fourth sessions (on Thursday) will deal with numerical algorithms for shape and topology optimization using the finite element software package **NGSolve**. The third session will be an interactive presentation while the fourth session is a hands-on session where participants solve problems.

  For the two Thursday sessions, we will get access to the **Vienna Scientific Cluster** (VSC), Austria‘s most powerful supercomputer. Since computations will be online, no local installation of NGSolve is necessary.

  The VSC team was kind enough to offer us to create an account for every participant in order to access their cluster. In order to create these accounts, a text message has to be sent to your mobile phone for verification. Therefore we need your **mobile phone number** (we promise to delete the data right after the summer school). Thus, if you want to join these tutorials on the VSC, *please send us a short email* with your full name and mobile phone number (including country code) to samm21@math.tugraz.at. Please use „VSC“ as subject for that email.

That being said, if you want to get the full experience out of your summer school week, please try to get access to Matlab or Octave and send us your phone number. If you prefer not to participate in some of the exercise sessions, this is of course fine, too.