Provisional Schedule DIGI-ESPIn (June 10)

Preparation for the summer school
1/2 day   We will ask you to fill out a pre-course survey, prepare 2 slides to introduce yourself and install some software.

Day 1   August 12th
9:00-9:30   Introduction to ESPIn, intro to instructors and peer-mentors
9:30-11:00   Introduction to all participants, - 2 mins, 1 slide, pop-ups of participants
11-11:15   *Break*
11:15-12:00   Science Lecture Open Source Modeling and Model Design
12:00-1:00   *Break and/or Online Bring-Your-Lunch*
1:00-2:30   Introduction to version control in Git, Github, demo of commands
2:30-2:45   *Break*
2:45 - 3:30   Practice with linux and Git commands, set up a team Git repo
3:30 - 5:00   Review of basic Python programming with demos and assignment
5:00-5:15   Concluding notes, questions and suggestions of participants

Day 2   August 13th
9:00-9:30   Introduction to team project work and themes
9:30-11:00   Review Assignment, libraries relevant for Earth Surface Processes (part I)
11-11:15   *Break*
11:15-12:00   Science Lecture LandLab Highlights and Grid Structure
12:00-1:00   *Break*
1:00-2:30   Discussions on Team projects and setting goals for everyone
2:30-2:45   *Break*
2:45 - 3:30   Practice with numpy arrays,writing a function, plotting in matplotlib, git repo.
3:30 - 4:15   libraries relevant for ESP (part II) + landlab demos + assignment
4:15-5:00   Small teams practice with csv files, NetCDF.
5:00-5:15   Concluding notes, questions and suggestions of participants

Day 3   August 14th
9:00-9:30   Existing Models and Toolkits for Modeling Earth Surface Processes (including hydrology, vegetation), CSDMS resources,
9:30-11:00   Basic Model Interface with demo
11-11:15   *Break*
11:15-12:00   Science Lecture on the use of xarray datasets
12:00-1:00   *Break*
1:00-2:30   Review Assignment, libraries relevant for ESP (part III) + Landlab: under the hood: grid/nodes/faces, open/closed boundaries.
2:30-2:45   *Break*
2:45 - 3:30   Small teams/individuals practice with Basic Model Interface or Landlab

3:30 - 4:00   Landlab agent-based example (demo)
4:00-5:00   Discussion by Teams on Projects and set homework to work towards solutions.
5:00-5:15   Concluding notes, questions and suggestions of participants
5:30-7:00orso *Online Bring-Your-Own-Beer and Life-Photo-Challenge*

Day 4   August 17th
9:00-9:30   Team Reps present their project goal & work plan (4min talk/team)
9:30-11:00   Python Modeling Tool with notebook demos
11-11:15   *Break*
11:15-12:00   Science Lecture: speaker and topic to be confirmed
12:00-1:00   *Break and/or Online Bring-Your-Lunch*
1:00-2:30   Team Projects Hack
2:30-2:45   *Break*
2:45 - 3:30   Team Projects Hack
3:30 - 4:15   Demo of Pymt permafrost-landlab notebooks
4:15-5:00   Team Projects Hack
5:00-5:15   Concluding notes, questions and suggestions of participants

Day 5   August 18th
9:00-9:30   Teams Reps Report back from Hack Results (4min talk/team)
9:30-11:00   Programming best practices & Unit tests (Mark Piper)
11-11:15   *Break*
11:15-12:30   DISCUSSION PANEL CAREER DEVELOPMENT
4 speakers, to be confirmed, from the private sector as well as from academia, telling about the role of scientific software development in their career
12:30-1:00   *Break and/or Online Bring-Your-Lunch with panelists*
1:00-2:30   Team Projects Hack
2:30-2:45   *Break*
2:45 - 3:30   Team Projects Hack (dedicated to a specific unit test to their work).
3:30 - 4:15   Small teams/individuals practice with writing a unit test
4:15-5:00   Consulting with CSDMS software engineers & scientists to discuss their own projects
5:00-5:15   Concluding notes, questions and suggestions of participants

Day 6   August 19th
9:00-9:30   Teams Reps Report back from Hack Results (4min talk/team)
9:30-11:00   Team Hacks
11-11:15   *Break*
11:15-12:00   Science Lecture: speaker and topic to be confirmed
12:00-1:00   *Break*
1:00-2:30   Team Projects Presentations (20 min + 5 mins for Q&A per team)
2:30-2:45   *Break*
2:45 - 3:30   Team Projects Presentations (20 min + 5 mins for Q&A per team)

3:30 - 4:15   Exit Survey for Learning Assessment
4:15-5:00   ESPIn Graduation - *Online Bring-Your-Beverage with everyone*