# Introduction to EOAFRICA R&D facility and the innovation lab

face 2 face workshop Soil Moisture and Inland Water Monitoring with Satellite Radar

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# A personal note

# Who are we?

## Speakers:

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# This week

- Intro to the Innovation lab
- Soil Moisture (Tuesday and Wednesday)
- Radar altimetry (Thursday and Friday)
- Purpose: lower the barrier for you to work with satellite data

# Today: get to know the Innovation lab

- What is Jupyter Lab?
- Cloning git repositories
- Taking control: Creating your own (conda) environment
  - Installing extra tools
- Some exploratory exercises
  - Using xarray? Rasterio?, (geo)-Pandas?

# First assignment: team up

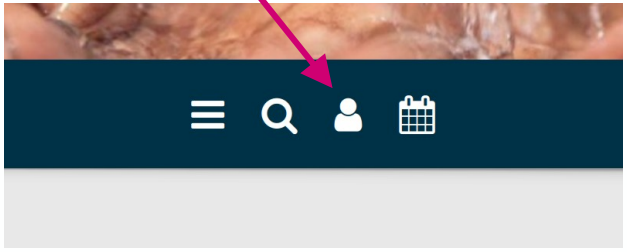
- Rate you python skills:

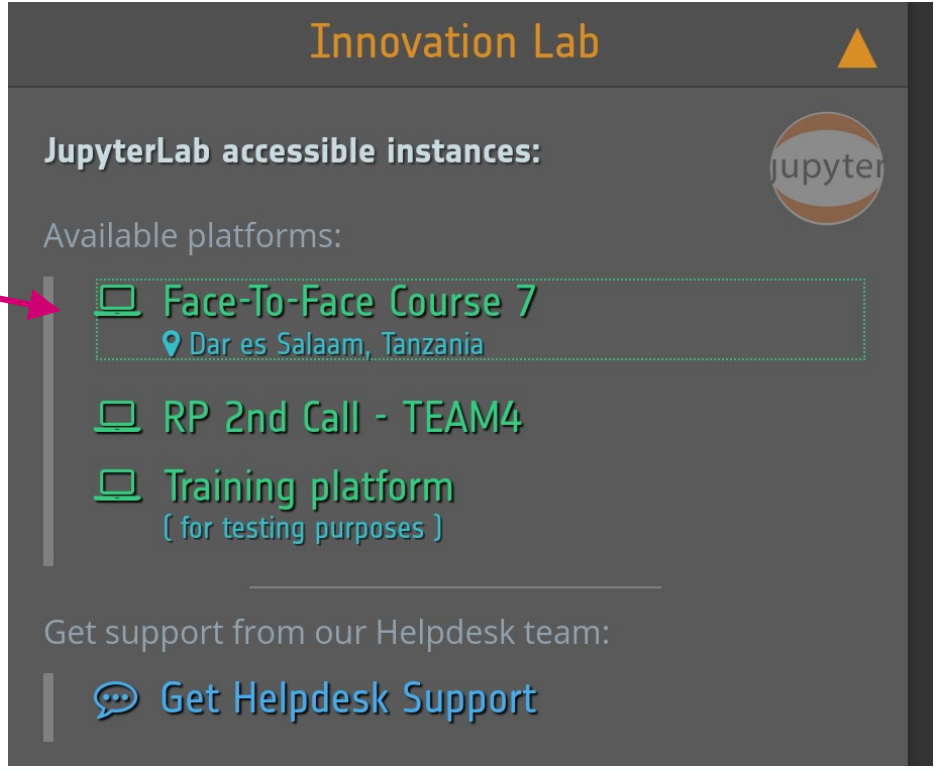
  1 < -- > 5

- Pair up while mixing your skills

# Log in to the innovation lab

- https://www.eoafrica-rd.org/





# What is in the folders?

- Explore the folders
- Where do you have write access?
- How can you share data with other participants?
- What are ‘your’ folders (i.e. not visible to others)?

# Clone a git repo containing a Jupyterlab intro

## Clone an EOAfrica repository with a Jupyterlab explainer

- Repository location (Courtesy: Longzhu Shen): https://github.com/EOAfrica/JupyterLab_Intro
- Two ways possible
  - Through the git extension
  - Through a terminal
- Did you succeed?

# Let's have a look at the Jupyterlab intro

# Set up a conda/pip environment

- As a user you may find that some packages are not installed
  - Ask the admin? (takes a lot of time..)
- But you can also create your own local installation
  - Using Python venv module: light, but python packages only
  - Or using anaconda/miniconda: heavier but also allows installation of other packages
  - You can tell jupyterLab to grab your own environment instead of the existing one
- Let's try that..
  - But first clone another git repository

# Exploratory assignment

- There is a lot of data in the eodata folder
- Pick a dataset of interest
- Use a notebook to create a plot of a datasets and document your findings
- Some python packages can be usefu:
  - Xarray
  - Rasterio
  - Matplotlib
- Share (copy) your notebook in the shared folder
- Explore a notebook from somebody else