

## Snakemake for reproducible research

Additional advanced concepts







antonin.thiebaut@chuv.ch Rafael.RiudavetsPuig@empa.ch



## Using non-conventional outputs

jobs

if possible)

**Function** 

File is deleted as soon as it is not required by any future

File cannot be overwritten after the job ends (useful to

Ignore file timestamp and assume file is older than any outputs: file will not be re-created when re-running the

Output is a directory instead of a file (use 'touch' instead

Create an empty flag file 'file.txt' regardless of the shell

command (if the command finished without errors)

workflow, except when --force parameters are used

prevent erasing a file by mistake, for example files

requiring heavy computation)

Coming from Convention	aroutputo

**Syntax** 

temp('path/to/file.txt')

protected('path/to/file.txt')

ancient('path/to/file.txt')

directory('path/to/directory')

touch('path/to/file.txt')

**Property** 

Temporary

Protected

Ancient

Directory

Touch

•	Snakemake has built-in utilities to assign properties to 'special' outputs

## Reminder on best practices

- One repository = one workflow
- Use Conda environments / Docker containers when possible
- Break out large workflow into modules with extension ".smk"
- Specify parameters in a config file located in a 'config' folder
- If you have many samples with information, use a sample sheet located in the 'config' folder
- Follow the official directory structure
- Use explicit rule and variable names
- Comment to explain your workflow; use docstring comments in rules