

Introduction to IN-CORE Lab and Jupyter Notebook

Jong Lee, Ph.D.

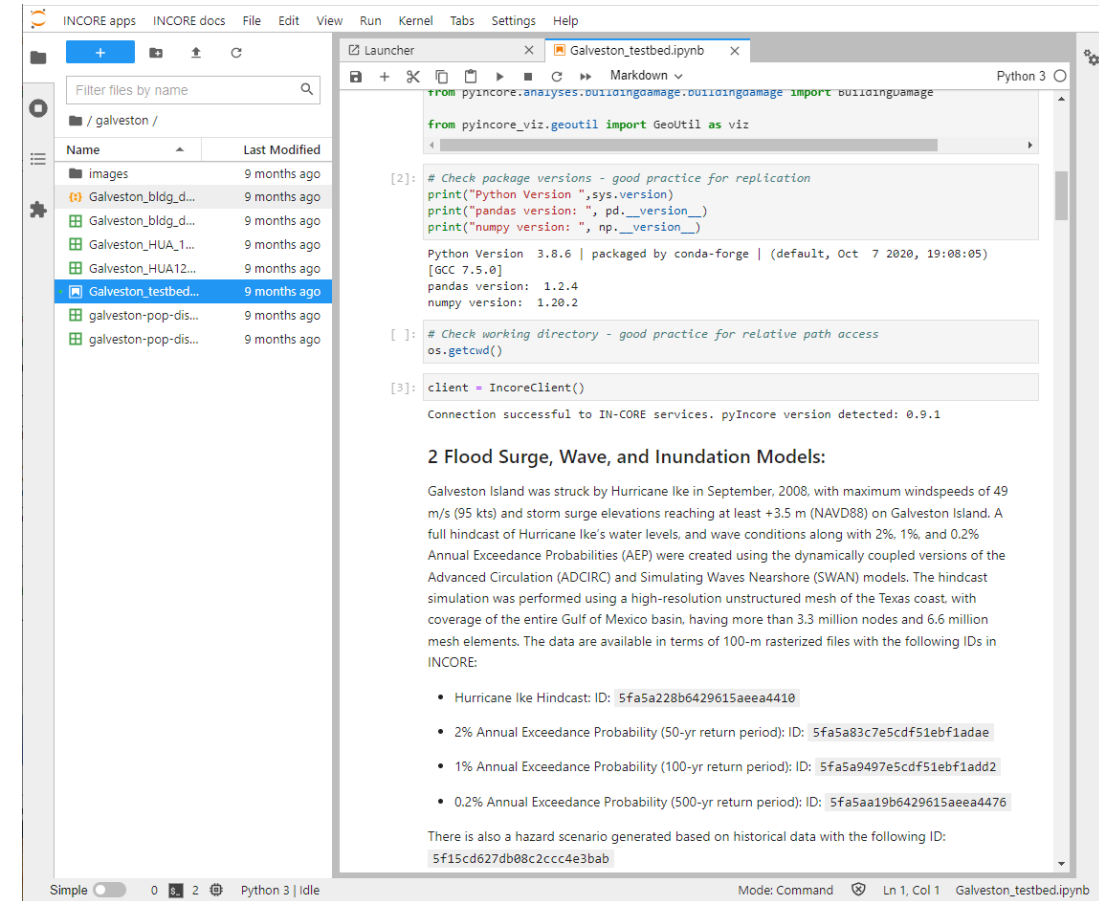
Co-PI, NIST-CoE Community Resilience

Deputy associate director, Software

National Center for Supercomputing Applications

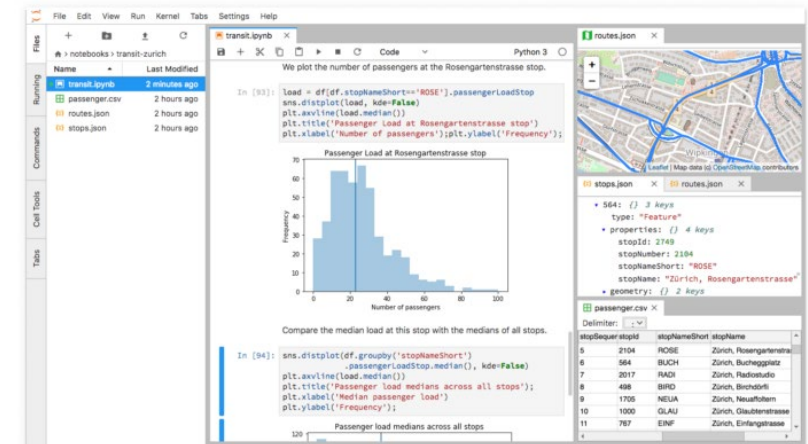
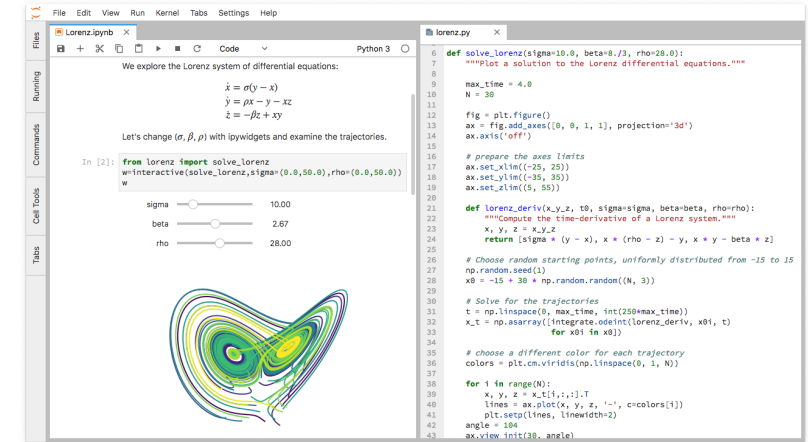
Jupyter Notebook

- A notebook integrates **code** and its **output** into a single document that combines visualizations, narrative text, mathematical equations, and other rich media.
- You can run code, display the output, and also add explanations, formulas, charts, and make your work more transparent, understandable, repeatable, and shareable.

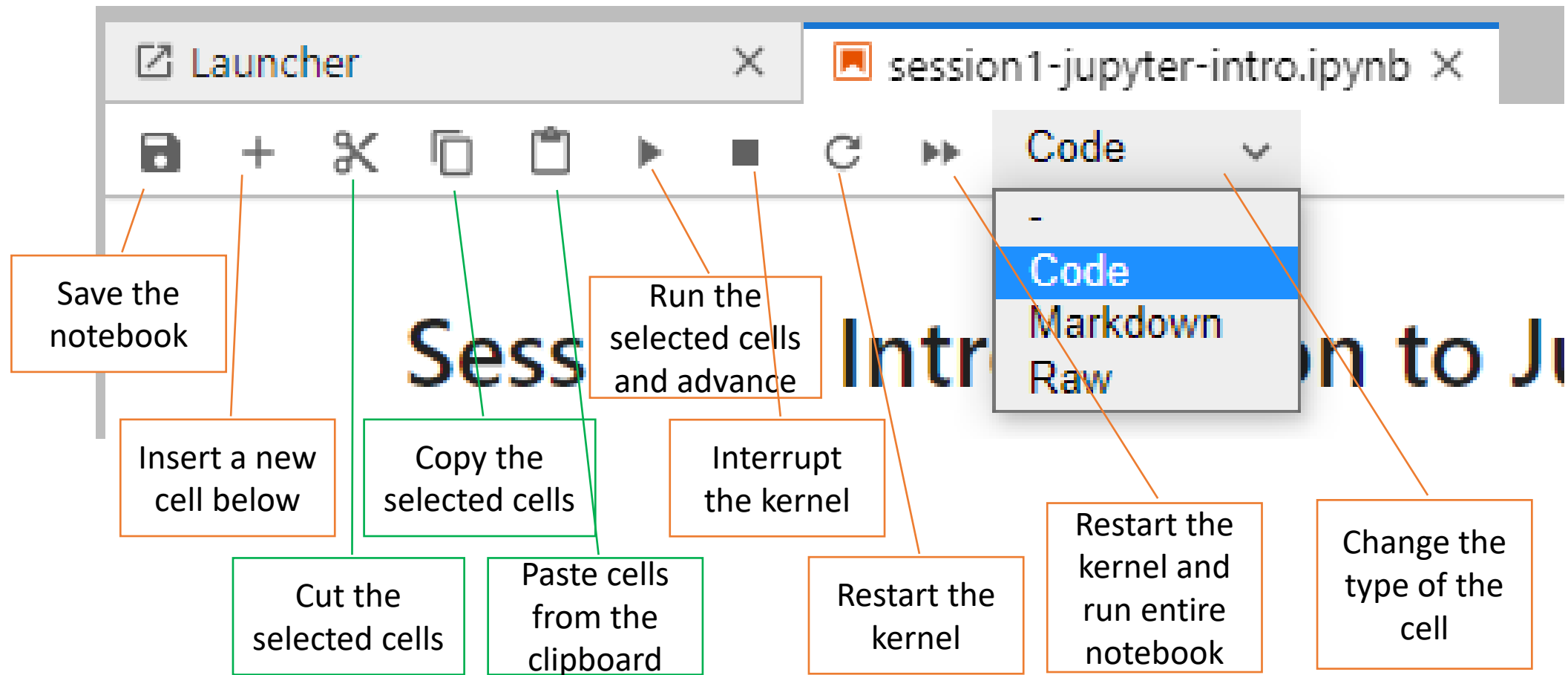


Jupyter Lab and IN-CORE Lab

- JupyterLab is a next-generation notebook interface.
- A web-based interactive development environment for notebooks, code, and data.
- **IN-CORE Lab** is a customized Jupyter Lab for IN-CORE
 - Added menu to documentations and IN-CORE web tools.

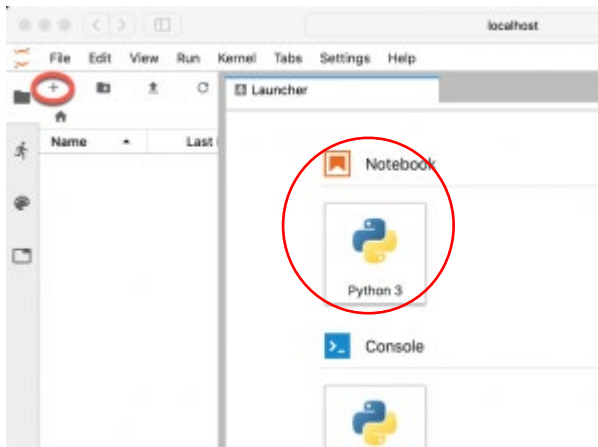


IN-CORE Lab User Interface

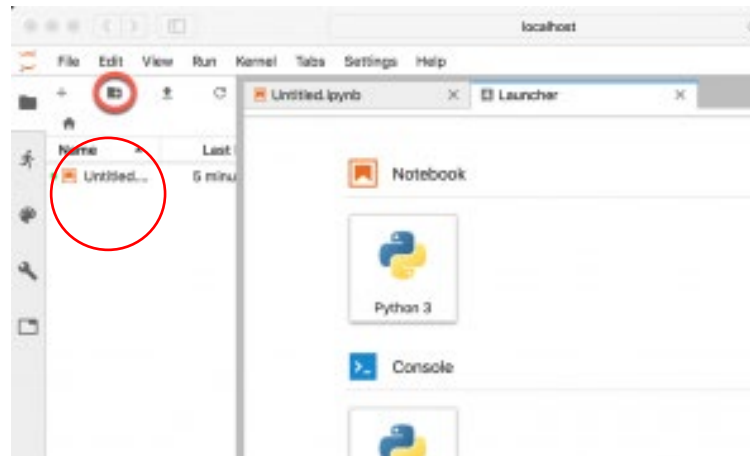


Jupyter Notebook File (ipynb)

- Each *.ipynb file is one notebook.
- You can open the ipynb file, then you can run/edit/save the cells.
- You can open the existing ipynb file or you can create a new one

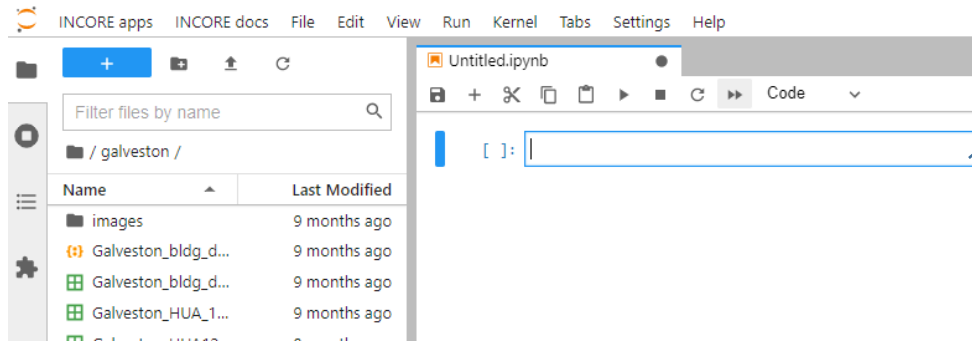


From Launcher

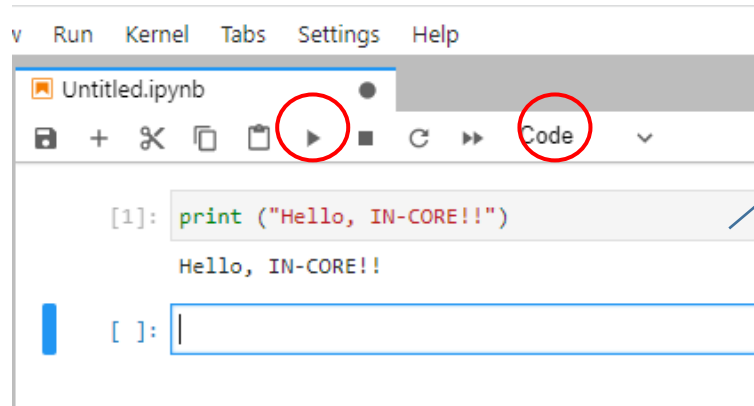


From File Browser

Cell



Cell: it can contains python code, Markdown, etc.



You can type python code and run
It shows the output

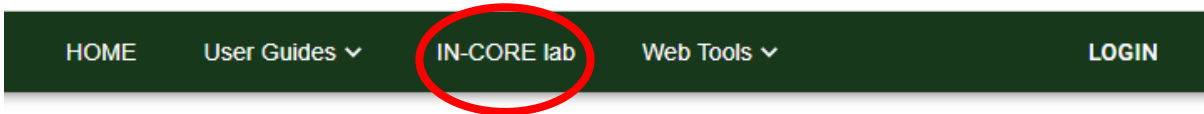
DEMO: <https://incore.ncsa.illinois.edu>

Preparing Session Materials from Jupyter Notebook

- At <https://incore.ncsa.illinois.edu>, Login



- After login, click on “IN-CORE lab”



- Download the following jupyter notebook file
 - <https://go.ncsa.illinois.edu/workshop-notebook>
- Upload to your IN-CORE lab
- Open the file