NDP Coding Bootcamp
Aug 27: 1-3:30pm, TBRC C2110
Aug 28: 1-3pm, TBRC C2195

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Goal:
All materials are hosted on the web: https://github.com/mdbudde/NDPprogramming

- The course will go at a pace dictated by your familiarity and experience. So please ask questions and engage, this is your time to learn. It may be an unfamiliar (and foreign) topic to some, but it can save you countless time and effort in the future. You will not leave as an independent coder, but the goal is to give you the tools to continue on your own and integrate the concepts into your research.
- You do not need to install programs on your computer to use the course materials.

Before meeting:
Please try to look through an introduction to the python language. You need not read it in depth or even understand it, but even just looking though some of the content may help you appreciate what coding entails.
https://library.oapen.org/bitstream/id/56d27e73-e92a-4398-8198-239be7aacc93/2020_Book_IntroductionToScientificProgra.pdf

You may use the github link above to view course materials or preview the notebooks/scripts we will cover during class: https://gesis.mybinder.org/v2/gh/mdbudde/NDPprogramming/main

For continuing beyond the bootcamp, I recommend installing on your own computer:

- Visual Studio Code (code editor): https://code.visualstudio.com/Download
- Miniconda (python installation and manager): https://www.anaconda.com/download/success

You can install these beforehand but we will go over how to use them.

Day 1: Introduction to Python and programming environments

- Powerpoint lecture of python basics; orienting you to programming environments, how to run programs, etc.
- Using jupyter notebooks as an introduction to python; variables, conditional statements, lists, functions, and packages.
- How-to get started on your own: navigating vscode, anaconda, and using AI.

Day 2: Advanced Concepts and Hands-on

- Recap of Day 1 and questions.
- Using VScode and conda.
- Adding AI to accelerate programming.
- Creating figures with python and matplotlib.
- pandas for data tables.
- Good coding practices, code sharing and collaborating.
- Free practice, hands-on help, or other topics of interest.