Hello Everyone,

Welcome to the Python Workshop! This week-long module in the MAR440 course will introduce you to the basics of using the Python programming language for scientific computing. The workshop will run from the 31st of August to the 7th of September. We will be using the same Zoom link as the rest of the course: https://gu-se.zoom.us/j/64390610872

We will begin with an introduction to the basics of Python. The module does not assume any prior programming experience or knowledge and is designed to be friendly to absolute beginners. That said, we would also like to provide a challenge, that both beginners and more advanced learners may find interesting!

We will introduce the packages in Python that are commonly used in scientific computing and data visualization. The final exercises will involve handling real-life data from the lab and the field!

The workshops will begin with a talk at 9am, introducing the day's material and setting up the exercises for the day. We will then break-out into smaller groups and work on the day's exercise until lunch at 12 noon. You may leave earlier for lunch if your group does not need as much time. We will reconvene after lunch, from 13:00 – 14:00, for a discussion and to share our learning across the groups.

All the material is available in the module, "PythonWorkshop", on the Canvas page in the form of "Python notebooks". Python notebooks are interactive environments where you can write code, visualize the output, and write documentation as well. These notebooks have also been saved in a HTML format, which you can view in your browser. You can also download all the material needed for the workshop from this Github repository.

We will be using the Jupyterhub available at: https://jupyterhub.marine.gu.se where you can create an account by signing in using your gus-account. You will then need to upload the workshop material that you downloaded earlier into the Jupyterhub. We will go over this on the first day if you have any problems. You are also welcome to use a local Python installation on your own laptop if that suits you. For more information on how to install Python on your own computer, refer to the bottom of the first notebook: 00_PythonBasics. You can also use the installation scripts in the file: "install_modules_python3.8".

A great source of reference material for much of the topics that we will cover in the workshop is Jake VanderPlas' book, Python Data Science Handbook. This book has free Python notebooks too, which you can download and start learning interactively from!

You can reach out to me at aditya.narayanan@gu.se if you have any questions. I look forward to meeting you all and beginning our Python journey!

Best regards,
Aditya Narayanan