Python data analysis for GATE simulations

E-learning

Scientific and technical environment of the training course

Laboratoire de physique de Clermont
http://clrwww.in2p3.fr/
GATE collaboration
http://www.opengatecollaboration.org/

COURSE DIRECTOR

Lydia MAIGNE
Associate professor
UMR 6533

ORGANISATION

3 days
From 9:00 am to 6:00 pm (4:00 pm the last day)
Training course in English
From 7 to 20 attendees

TEACHING METHODS

- Online training
- Lectures (5 h) and hands on (15 h)
- Practical course with 3 teachers for the group

Throughout the training, corrected exercises will allow the trainee to evaluate his knowledge acquisition.
Course materials and corrected exercises in PDF format as well as videos of the sessions will be given to participants.

TRAINING FEES

850 Euros

AT THE END OF THE TRAINING COURSE

- Satisfaction survey from trainees
- A training certificate is delivered

COURSE DATE

Ref. 24 061 : from Wednesday 06/03/24 to Friday 08/03/24

OBJECTIVES

- Master the basic Python functions and mastering principal libraries (Matplotlib, NumPy, Pandas)
- Master Python for the management of ASCII, ROOT and IMAGE outputs
- Master Python for image conversion and merging
- Master cluster computing

AUDIENCE

Researchers, PhD students, postdoctoral fellows, engineers and technicians willing to improve and enhance data analysis for GATE simulations

PRE-REQUIREMENT

Know how to use the GATE platform

TRAINING PROGRAMME

- Introduction to Python
- NumPy, Matplotlib
- Monte Carlo exercises
- GATE ASCII output analysis
- Python analysis for PET and SPECT applications using NumPy
- NumPy to Pandas analysis
- Python analysis for radiation therapy applications
- Python analysis for optical photons applications
- GATE image output analysis
- Image conversion + merging
- Cluster computing

If you work on American territory, we invite you to contact by email the course director Mrs. Lydia Maigne - lydia.maigne(at)clermont.in2p3.fr - who will organize a special session for American trainees on adapted time slots when a group is formed.

EQUIPMENT

Participants will attend the training online through a dedicated web interface, they should attend the training with their laptop and connect to a dedicated GATE server through an ssh connection.

Information for connection will be provided one week before the training. Sessions will be registered and provided remotely during 3 weeks after the training.

SPEAKERS

M. Dupont (engineer) and M.-A. Verdier (associate professor)

The training course is organized in partnership with the GATE collaboration.