



United Nations
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ICTP - East African Institute
for Fundamental Research
under the auspices of UNESCO



The Abdus Salam
International Centre
for Theoretical Physics



C and Linux for Science & Engineering

Series-1: October – December, 2022

Background and purpose

The relevance of computers in all fields of both applied and basic sciences has rapidly grown in the last decades and is crucial nowadays to the point where computer simulations have now become a de-facto third pillar of scientific progress together with theory and experiments. Within its mission of fostering higher education in Rwanda, EAI FR, together with ICTP Trieste Italy, is organizing a series of e-lectures on scientific computing. The program is open to students and scientists at different levels whose resident institutions are based within the country. Lectures will be given via ZOOM and delivered on the ICTP e-computer laboratory that grants access via web browser to a homogeneous virtual environment for all participants. The e-class will be restricted to a limited number of participants and applications selected mainly based on technical background and motivation (a reference letter will be requested too).

The first series of lecture "C and Linux for science and engineering" will be scheduled twice a week with two e-classes of about 2.5 hours each, and for 5 weeks in a row, starting on Monday/24/October/2022. Learning C and Linux is important as this would provide a good understanding of important basics in the workings and operations of computers. The first lecture series will include the following topics:

1. Linux CLI

- > Editing files from Linux CLI,
- > Plotting with Gnuplot,
- > Search of text patterns in the Linux CLI environment
- > BASH and AWK scripting

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2. Basics of C

- > Programming
- > Compiling and linking from the Linux CLI environment
- > Memory management and basic I/O.

Lectures will be mostly based on practicals and supported by a significant number of tutors at disposal of the participants, during the hands-on sessions.

Applications are now open for the first lecture series on "C and Linux for science and engineering" at <https://indico.ictp.it/event/10051/> Detailed agenda of the e-classes as well as references to the e-class infrastructure will be communicated to the selected participants.

Who may apply?

Final year students and anyone in Rwanda with a first degree may apply. This includes postgraduate students, teaching assistants, early-career researchers, lecturers, and others. Selection is competitive. Women are particularly encouraged to apply.

How to apply

There is no registration fee. Simply apply at the link here: <https://indico.ictp.it/event/10051/>

Deadline for Application

October 16, 2022

Contact for additional information

CLINUX@eaifr.org

IGIROTTO@ICTP.IT

Main Lecturers:

Dr. Elliot Menkah (KNUST, Ghana)

Dr. Ivan Giroto (ICTP Trieste Italy)

Websites of sponsors:

<https://www.ictp.it>

<https://www.eaifr.org>

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