

The 2020 SAP Summer Lecture Series

Report of Contributions

Contribution ID : 5

Type : **Orientation**

LabVIEW (click on title for log in information)

Wednesday, 13 May 2020 12:00 (120)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVZzMXZyUWVlQT09>

Presenter(s) : CHAMBERS, Christopher (McGill University)

Contribution ID : 6

Type : **Orientation**

UNIX and HPC (click on title for log in information)

Wednesday, 6 May 2020 12:00 (120)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVZzMXZyUWVlQT09>

Presenter(s) : MCELROY, Thomas (McGill University)

Contribution ID : 7

Type : **Orientation**

SolidWorks by Xiao (click on title for log in information)

Thursday, 14 May 2020 12:00 (120)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVFzMXVyUWVlQT09>

Presenter(s) : Mr SHANG, Xiao (McGill)

Contribution ID : 9

Type : **Orientation**

Statistics and Error Analysis (click on title for log in information)

Friday, 15 May 2020 12:00 (120)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVFzMXlyUWVlQT09>

Presenter(s) : OSER, Scott (UBC)

Contribution ID : **10**

Type : **Orientation**

Python (click on title for log in information)

Tuesday, 12 May 2020 12:00 (120)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVFzMXVyUWVlQT09>

Presenter(s) : Dr GIAMPA, Pietro

Contribution ID : 11

Type : **Orientation**

GEANT4 (click on title for log in information)

Monday, 11 May 2020 12:00 (120)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTThTYVVFzMXYYyUWVlQT09>

The GEANT4 lecture will touch upon the following aspects:

- Why use Geant4
- How does Geant4 work
- How to create your own Geant4 simulation
- How to change things in the simulation (Geometry, materials, Physics, SteppingAction, output, PrimaryEventGenerator)
- Do we trust the output?
- Where to get Help?
- Concluding remarks/discussion

Parts of the lecture would be actually digging into the code, recompiling, re-running, and i will be doing it using a virtual machine.

So those of you who want to follow along (it can be both fun and educational), or have a chance to work on some of the things discussed after the lecture it's best to have a similar environment on your machine.

Due to variability in our native operating systems, versions of software and all that below is the information on how to install a Virtual Machine (an emulation that will run on your system (win/linux/mac)). It's the most painless way to create a uniform environment for all the participants.

* It is optional of course, but it is recommended to install this Virtual Machine and test it ahead of the lecture.

---- HOW To INSTALL A Centos7 Virtual Machine-----

---- with Geant, Root and a bunch of stuff-----

System requirements for this:

- Windows or Linux users : desktop or laptop PC running Windows or Linux with a virtualization software installed. Software is free.
- Mac users : desktop or laptop Mac running Mac OS with a virtualization software installed (can be installed with a trial period).
- at least 4 Gb of RAM for the PC or Mac
- 20 Gb of free disk space available

Download the VM files:

The VirtualMachine itself can be downloaded here in either English or French (i tested only the english version).

It's a 4.5GB file!

<ftp://ftp.cenbg.in2p3.fr/info/Vmware/Old-Versions/geant4.10.05/VmWare/>

Get the required Virtual Machine software:

- VmWare Workstation Player for Windows/Linux (>=version 12.5.9), Vmware Fusion for MacOS (<http://www.vmware.com>)

** Installation

- Install Vmware Player (VmWare Fusion for mac) if needed | Mac software has a trial period
- Decompress the (G4.10.5_CentOS7_us.7z) file you downloaded from a link above into a directory

- At the end you can then delete the zipped (.7z) file

**** How to use the virtual machine ?**

- Execute VMware Workstation Player (Fusion on mac) to open the virtual machine From VmWare Player, open the .vmx file,

When you power on the virtual machine, VMware Player displays a message asking whether you have moved or copied the virtual machine. You have to answer "I copied it". This will create a new uuid and a new mac address for the virtual machine necessary for network connection.

If VmWare Player ask to install or upgrade VMware Tools, you have to do it because it is necessary for the use of shared folders between host and guest system.

Once your virtual machine is powered on, you have a real CentOS 7 system

- A default user account exists, the login account is:

local1 and the password is local1

root password is centos7

**** Testing that you can run Geant4 examples:**

For example with the B1 example, do the following after you powered your machine

```
mkdir HOME/buildB1cdHOME/buildB1
```

```
cmake -DGeant4_DIR=G4COMP4EXAMPLES/basic/B1
```

```
make
```

```
./exampleB1
```

Presenter(s): SHER, Aleksey (TRIUMF)

Contribution ID : 12

Type : **Orientation**

ROOT (click on title for log in information)

Friday, 8 May 2020 12:00 (120)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVFzMXVyUWVlQT09>

Presenter(s) : JILLINGS, Chris (SNOLAB/Laurentian University)

Contribution ID : 13

Type : **Orientation**

Programming in C++ (click on title for log in information)

Thursday, 7 May 2020 12:00 (120)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVFzMXlyUWVlQT09>

Presenter(s) : PAL, SUMANTA (UNIVERSITY OF ALBERTA)

Contribution ID : 14

Type : **Orientation**

General help with computers (click title for log in information)

Tuesday, 5 May 2020 16:00 (120)

An online session where I will be available to help as much as I can on computer issues. Please try to receive help from your supervisor and other senior members of your research groups if you can.

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVZzMXZyUWVlQT09>

Presenter(s) : MCELROY, Thomas (McGill University)

Contribution ID : 15

Type : **Orientation**

PyROOT

Wednesday, 13 May 2020 14:00 (60)

Contribution ID : 16

Type : **Lecture**

Dark Matter

Wednesday, 20 May 2020 16:00 (60)

ZOOM Link: <https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVFzMXVyUWVlQT09>

Presenter(s) : CLARK, Ken (Queen's University)

Contribution ID : 17

Type : **Lecture**

Nuclear Astrophysics

Wednesday, 27 May 2020 16:00 (60)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVFzMXVyUWVlQT09>

Presenter(s) : Dr DILLMANN, Iris

Contribution ID : 18

Type : **not specified**

Neutrino Telescopes and Multi-messenger Astronomy

Wednesday, 8 July 2020 12:00 (60)

<https://zoom.us/j/91719018227>

Presenter(s) : Dr RESCONI, Elisa

Contribution ID : **19**

Type : **Lecture**

Neutrinos

Wednesday, 3 June 2020 16:00 (60)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVFzMXVyUWVlQT09>

Presenter(s) : Dr CADEN, Erica

Contribution ID : **20**

Type : **Lecture**

Nuclear Calculations

Wednesday, 24 June 2020 16:00 (60)

Presenter(s) : Dr HOLT, Jason

Contribution ID : 21

Type : **Lecture**

The Higgs Boson from the Discovery to Precision Measurements

Wednesday, 29 July 2020 16:00 (60)

Abstract: In July of 2012, the ATLAS and CMS Experiments announced a major scientific breakthrough: the discovery of a new particle consistent with the Higgs boson predicted by the Standard Model of particle physics. In the last 8 years, a lot of progress has been made in understanding the properties of this special particle. In this seminar, I will give an introduction to the Higgs boson and its role in the Standard Model of particle physics, describe the accelerator and experiments that study this particle, review what we have learned in the last 8 years, and finally describe what are the next steps in understanding the properties of this particle.

Presenter(s) : Dr SAVARD, Pierre

Contribution ID : **22**

Type : **Lecture**

TRIUMF Lectures

Friday, 3 July 2020 13:00 (60)

Contribution ID : 23

Type : **Lecture**

Neutron Skin Measurements and Neutron Star Radii

Wednesday, 22 July 2020 16:00 (60)

<https://mcgill.zoom.us/j/5315899956?pwd=aTJoSmczUm1MTHhTYVFzMXVyUWVlQT09>

Presenter(s) : MAMMEI, Juliette (University of Manitoba)