

## **Training WG update**

**Sudhir Malik (Univ. of Puerto Rico Mayaguez)  
Dario Menasce (INFN Milano)**

**The major role of the Software Sustainability Core (SSC) will run workshops and training events for the community covering a broad range of topics on computing skills necessary to be a proficient particle experimentalist.**

# HOW2019 Workshop

## HSF parallel: Education and Training


11:00 → 12:30

### HSF parallel: Education and Training

ARC (JLab)



Convener: Sudhir Malik (University of Puerto Rico (PR))

 Live Notes


11:00

#### Starter-Kit training program

15m



Speaker: Albert Puig Navarro (Universität Zürich (CH))

 Starterkit.pdf


11:20

#### HSF Training survey

15m



Speaker: David Lange (Princeton University (US))

 training\_how2019.pdf


11:40

#### First-HEP training program

15m



Speaker: Sudhir Malik (University of Puerto Rico (PR))

 FIRST-HEP-JLAB-H...


12:00

#### Software and Computing Training at Jefferson Lab

15m



Speaker: Ole Hansen (Jefferson Lab)

 Hansen-Training-JL...

12:20

#### Discussion items

10m



# HOW2019 Workshop

## HSF parallel: Education and Training

- ▶ **StarterKit** -(LHCb/ALICE)Re-engage with Carpentries to adapt the material for HEP users
- ▶ Financial support and career recognition needs to be addressed at the funding agency
- ▶ **HSF Training Survey** - People do seem to like to learn from written material, invest in suitable C++ material
- ▶ **First-HEP training program** - is about developing sustaining and scalable training, not specific pieces of material, need to also emphasize on Careers too, especially giving students appropriate and transferable skills (90% will leave the field)
- ▶ **Software and Computing Training at Jefferson Lab** - initial training would be a good way to establish a baseline, complex tools like RooFit get picked up by students, but without a full understanding, so easy to make mistakes

<https://docs.google.com/document/d/1FQNHVVdOLc7bNYaYBxEPUFwOZmqDWQdk4Jnr2XIWmY/edit#>

# Near Term Plan Update



- ▶ Build starting point for newcomers to HEP
- ▶ Start introductory level Carpentry
  - ▶ Build Assemble an introductory HEP curriculum
    - ▶ Plan in works to organize introductory level Carpentry (scale it) at the LPC, Fermilab in March ✓
  - ▶ Target audience - CMS/ATLAS to begin
  - ▶ Invite LHCb/ALICE to showcase Starterkit
  - ▶ Survey in preparation to assess training needs - ✓
    - ▶ now survey is done, > 350 responses, will summarize and present later
- ▶ Website (on HSF website in works listing training schools) ✓

# Software Carpentry Workshop - Fermilab - (1-2 April 2019)

## Software Carpentry Workshop

1-2 April 2019

Fermilab Feynman Computing Center (Room FCC2A)

US/Central timezone

### Overview

Scientific Programme

Timetable

Contribution List

Registration

Registration Form

Participant List

Getting a Fermilab  
Computing Account

Map and directions  
(Fermilab)

Main roads around  
Fermilab

Fermilab site map

Carpentry Link

Supplemental materials

Pre-Workshop Survey

Post-workshop Survey

### Support

✉ malik@fnal.gov

We are very excited to announce the Software Carpentry Workshop at Fermilab. Our experience with experiment-specific and advanced software trainings has shown that participants' knowledge of basic software skills can be quite variable, depending on their particular background. Some participants have basic skills from university courses or self-training, but holes are very common. This makes it difficult to profit from the advanced trainings being offered. In offering the workshop, we aim to establish and provide a uniform set of basic skills for all HEP graduate students and postdocs, broadening participation from institutions lacking such courses.

The topics will cover *python*, *python plotting*, *access physics data in Python with PyData*, *as well as manipulating irregular data as jagged arrays*.

**NOTE:** The registration is strictly limited to 25 on first come first serve basis. There will be a waitlist of 5 in case a spot opens up. To be waitlisted, send email to Sudhir Malik (malik@fnal.gov).

**NOTE:** Coffee/cookies will be served. Lunch is on your own.

#### Tutors:

David Yakobovitch - Enterprise Data Scientist at Galvanize, AI Instructor

Will Trimble - bioinformatician, based at ANL

Jim Pivarski - Physicist, Princeton University

#### Organisers:

Sudhir Malik (University of Puerto Rico Mayaguez)

Peter Elmer (Princeton University)

Ian Cosden (Princeton University)

#### Local Organiser:

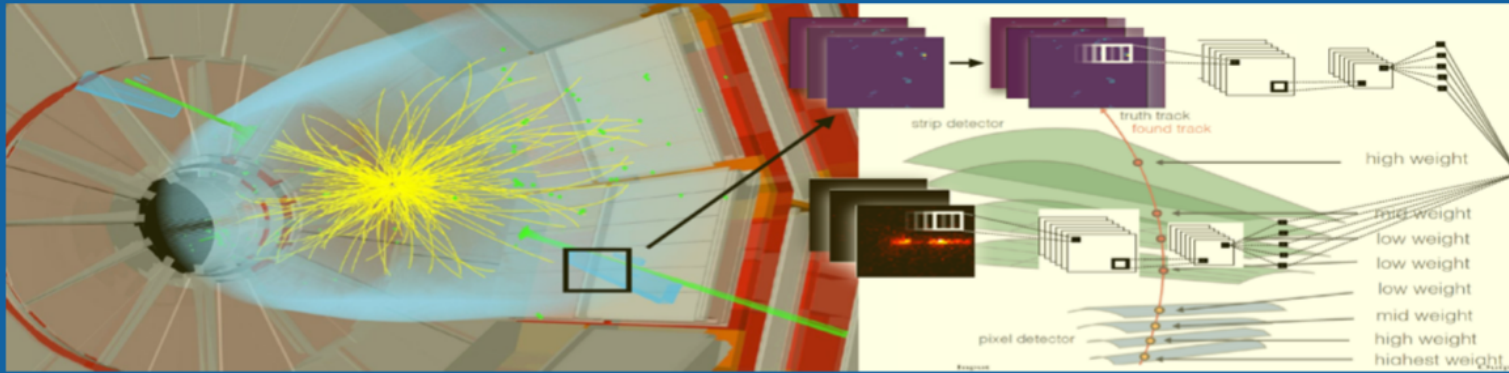
Scarlet Norberg (UPRM)

#### Group Photo:



- ▶ 25 Participants + tutors
- ▶ mostly neutrino community
- ▶ Pre/Post Survey done

# Machine Learning Workshop/Hackathon 24 - 26 Apr 2019, UPRM, Puerto Rico



## Machine Learning Workshop/Hackathon

24-26 April 2019  
UPRM, Mayaguez, Puerto Rico  
America/Puerto\_Rico timezone

Search...



Overview

Timetable

Contribution List

Registration

Participant List

Contact

✉ [sudhir.malik@upr.edu](mailto:sudhir.malik@upr.edu)

Physics Department is organizing the very first Machine Learning Hackathon on 24-26 April, 2019. Machine learning is a method of data analysis that automates analytical model building. It is a branch of artificial intelligence based on the idea that systems can learn from data, identify patterns and make decisions with minimal human intervention. While many machine learning algorithms have been around for a long time, the ability to automatically apply complex mathematical calculations to big data repeatedly and ever faster is a recent development. Learning these skill would make it possible to quickly and automatically produce models that can analyze bigger, more complex data and deliver faster, more accurate results. ML techniques encompasses all STEM fields. It is very essential that UPRM students learn these tools early on to make good careers in future. The agenda includes talks by UPRM researchers and faculties from Mathematics, Physics and CS&E departments. The topics will cover Statistics, ML techniques and used cases in UPRM research. The main guest will be Dr. Sergei Gleyzer, who is a physicist from University of Florida and expert and convener of ML group at CMS Experiment. The participants will be students from UPRM and will be given challenging problem to solve during Hackathon.

**Registration is limited to 25 participants and deadline is 20 April, 2019**



Starts 24 Apr 2019, 09:00  
Ends 26 Apr 2019, 16:00  
America/Puerto\_Rico



UPRM, Mayaguez, Puerto Rico  
Eugene Francis Hall

▶ 25  
Participants +  
1 tutors  
▶ 9 speakers -  
Computer  
Science +  
Engineering +  
Physics +  
Math

# Schools for HSF Training

<https://hepsoftwarefoundation.org/Schools/events.html>

## Schools for HSF Training

### Upcoming Training Schools

Warning : Application deadlines are **before the date shown**

1. **11 May - 26 May 2019** - Summer School on Intelligent Signal Processing for Frontier Physics and Industry
2. **27 May - 4 Jun 2019** - Joint 9th IDPASC SCHOOL and XXXI INTERNATIONAL SEMINAR of NUCLEAR and SUBNUCLEAR PHYSICS  
"Francesco Romano"
3. **2 Jun - 7 Jun 2019** - INFN School of Statistics
4. **15 Jul - 19 Jul 2019** - OSG User School 2019
5. **16 Jul - 26 Jul 2019** - 2019 CTEQ Summer School University of Pittsburgh, USA
6. **22 Jul - 26 Jul 2019** - CoDaS-HEP School (Computational and Data Science Training for High Energy Physics) at Princeton University
7. **28 Aug - 6 Sep 2019** - 14th CERN-Fermilab Hadron Collider Physics Summer School
8. **4 Sep - 7 Sep 2019** - 2019 CERN-JINR European School of HEP
9. **15 Sep - 28 Sep 2019** - CERN School of Computing

### Past Schools

1. **25 Mar - 25 Mar 2019** - Nvidia Workshop
2. **13 Mar - 26 Mar 2019** - Latin American School
3. **4 Mar - 7 Mar 2019** - Inverted CERN School of Computing
4. **12 Sep - 25 Sep 2018** - AEPSHEP (Asia-Europe-Pacific School of High-Energy Physics)

# First-HEP/ATLAS Training

- ▶ August 19-23 and it is being held at Lawrence Berkeley National Lab
- ▶ Computing "bootcamp" in the context of US-ATLAS and "mashup" with First-HEP



## JLAB interest in training

- ▶ Work with IRIS-HEP/OSG on training, particularly leveraging the carpentries in a way that is well suited for a physics community
- ▶ Staff members interested in expanding training opportunities for staff and users and train a couple to as serve as instructors

## IRIS-HEP/FIRST-HEP training activities meeting

- ▶ Peter Elmer sent an email to sign up for doodle poll
- ▶ <https://doodle.com/poll/qq2i3wsun54micqc>

## Related Links/Info

- ▶ IRIS-HEP website <http://iris-hep.org/>
  - ▶ Jobs on IRIS-HEP and Collaborating Projects <http://iris-hep.org/jobs>
  - ▶ General public announcement mailing list for IRIS-HEP events, talks, meetings, workshops, opportunities for training and job opportunities (subscribe to) [announcements@iris-hep.org](mailto:announcements@iris-hep.org)
- ▶ HSF (HEP Software foundation) - <https://hepsoftwarefoundation.org>
  - ▶ General Information about HSF (subscribe to): [hsf-forum@googlegroups.com](mailto:hsf-forum@googlegroups.com)
  - ▶ Discussions and activities in the HEP Software Foundation mailing lists can be found here (General and Dedicated Forums): <https://hepsoftwarefoundation.org/forums.html>
  - ▶ You can contribute <https://hepsoftwarefoundation.org/cwp/cwp-working-groups.html>
  - ▶ HSF Events/Workshops - <https://hepsoftwarefoundation.org/events.html>
- ▶ FIRST-HEP website <http://first-hep.org>
  - ▶ Funding for participants and lecturer support for Training