



# Community building

**HSF WLCG Workshop, November 19, 2020**

HSF Training WG with Kilian Lieret<sup>1,2</sup>, Sudhir Malik<sup>3</sup>, Samuel Meehan<sup>4</sup>

<sup>1</sup> Ludwig Maximilian University of Munich

<sup>2</sup> Excellence Cluster Universe

<sup>3</sup> University of Puerto Rico Mayaguez

<sup>4</sup> CERN



Community building

**Engagement** =

Intrinsic Motivation  +

Extrinsic Motivation  +

Support  – Obstacles 

Community building

**Engagement** =

Intrinsic Motivation  +

Extrinsic Motivation  +

Support  – Obstacles  +

**Advertisement** 

## Community building

$$\text{Engagement} = \max(0, \\ \text{Intrinsic Motivation} \heartsuit + \\ \text{Extrinsic Motivation} \text{🥕} + \\ \text{Support} \text{🛑} - \text{Obstacles} \text{🚧} + \\ \text{Advertisement} \text{📡} )$$



# Intrinsic Motivation

- You want to have a **high impact** and **advance HEP**?  
**Training** might be your most effective choice!
- Example: Writing a lesson on X (pyROOT, your framework, numpy, ...)
  - Your time investment (3h lesson, ready for event): **30h**
  - Learning time student: **6h** (no lesson) → **3h** (your lesson)
  - 100 students (= 2 events) per year ⇒ **300h saved to the HEP community!**
  - **Payback = 10x investment per year!**
- Even better ramification:
  - Instilling **best practices**
    - *Encouraging* students to use **unit testing**: fast
    - Can make the difference between *working* or *failing* experiment, *retracted* or *successful* paper
  - Explaining badly documented/difficult topics

Intrinsic motivation

You want to have a **high impact** and  
**advance HEP?**

**Training** might be your most effective  
choice!



## Extrinsic Motivation





























































- *“If you can’t explain something to a freshman, you haven’t understood it yourself”* – Misattributed to many famous people  
⇒ Use training to **deepen your own understanding**
- Or **force yourself to learn** something new and useful!
- Practice git, github & **collaborative workflow** (& learn about Jekyll and static websites if you want)
- Cross-experiment **networking**: Join a vibrant **community**



# Extrinsic Motivation: Community

- Anyone who contributes can add their **profile** to the HSF page

Our community

 Amber Roepe (she/her) 	 Andrea Valassi 	 Clemens Lange 	 Dan Guest 	 Kevin Nelson 	 Kilian Lieret 	 Leonora Vesterbacka 	 Mason Proffitt 	 Scarlet Norberg 	 Sebastien Ponce 	 Sizar Aziz 	 Stefan Roiser 
 Daniel S. Katz 	 David Chamont 	 David Yakobovitch 	 Gordon Stark 	 Matt Bellis 	 Matthew Feickert 	 Meirin Oan Evans 	 Oksana Shadura 	 Stewart Martin-Haugh 	 Sudhir Malik 		
 Graeme A Stewart 	 Henry Schreiner 	 Jackson Burzynski 	 Jim Pivarski 	 Philipp Gadow 	 Robin Newhouse 	 Sam Meehan 	 Savannah Thais 				

<https://hepsoftwarefoundation.org/training/community.html>






# Extrinsic Motivation: Recognition


- **Community profiles** can be personalized and linked to in applications
- Working on further **crediting the content contributors** of each training module
  - Using the **allcontributor github bot**
  - Mostly used to update readmes on github, but can configure it to update any markdown file
  - Allows to add avatars and names to our module websites without maintenance issues
  - <https://allcontributors.org/>
  - Great thing for any open source project!




# Extrinsic Motivation: Recognition


**klieret** commented 15 days ago


@all-contributors please add @meevans1 for code







**allcontributors** bot mentioned this issue 15 days ago


docs: add meevans1 as a contributor #8




**allcontributors** bot commented 15 days ago

@klieret

I've put up a [pull request](#) to add @meevans1! 🎉



## Authors



Samuel Meehan



Meirin Oan Evans

## Schedule

	Setup	Download files required for the lesson
00:00	1. Introduction	Key question (FIXME)
00:00	Finish	





## Extrinsic Motivation: Supervision

- You might already **have to** teach and train new students
- Polemic comparison:

### Do it yourself:

- Give same instructions to every student every time
- Use slides that only work if you explain them verbally
- Answer the same questions over and over
- Have your material age and become deprecated because you're the only overworked maintainer

### HSF Training module

- **Self-contained** and **self-study centric**
- Yet **easy to roll out events** with our **support**
- Everyone with a github account can help to **improve** & **maintain** material
- We find a **big audience** that keeps the material alive



# Extrinsic Motivation: Money

- Can we **repurpose travel funds** as an enticement to create training material & teach?
- E.g. **2000\$ fellowship** for a 3-4h training module
  - 1000\$ at the beginning
  - 1000\$ successful delivery (judged by HSF Training and IRISH HEP/fund provider)
- Discussions ongoing
- Long term goal: Creating a **career path** (as was done for RSEs)

## Pay to Teach and Learn

A proposal to making “research-teaching” \*more\* worth it

### Description/Motivation

One of the key components involved in the HSF-Training mission plan is the creation of an “Essential HEP Core Curriculum” for computing. The creation of a full training involves both the development of a lesson webpage (e.g. CI/CD) as well as a set of standalone training videos (e.g. CI/CD videos). Over the past year, a number of tutorials have been developed by members of the community and they are at various stages of completion from being merely ideas, to being fully supported trainings (e.g. CI/CD above). This has happened on a “volunteer” basis and while this has been encouraging, it is not sustainable to solely rely on the good intentions of the community to drive progress. Moreover, the creation of a training amounts to a considerable time investment on the part of the instructors. It requires approximately 50 hours to create a lesson and between 20-30 hours to record the standalone videos. This amounts to a considerable time investment at the expense of taking time from their ongoing research activities.

On the other hand, teaching requires that there be an engaged audience who is invested in learning. Though at face value, it is commonly believed that providing educational resources for researchers is enough, the erroneous need to multi-task has been impressed by our community on our community, thereby creating educational audiences who try to check emails or perform analysis tasks during in person workshops and who, during virtual workshops, de-prioritize the work of learning. “It can always be done later,” is a common mentality for learning. In reality, by internalizing new skills, a student or researcher will become better equipped to be more efficient in the future. The challenge for educators lies in providing the appropriate motivation to engage and have the individual \*commit\* to learning in a focused way.

This is a proposal to IRIS-HEP to augment this model and offer \*financial\* rewards for the development of training content as well as their learning. We argue that this provides a more sustainable training model as it would create high-quality and distributable content that can be implemented in virtual training environments. This would also mitigate the issue of audience engagement, thereby making each training event more effective. Both of these features will lead to considerable financial savings by saving on travel expenses for instructors or participants of similar trainings and creating a more effective research workforce.



## Support - Obstacles

- **Technical** aspects: Our trainings are websites (deployed with Jekyll as gh-pages)
  - ... but you only need to write in **Markdown**
  - We help to set up the framework (and everything else you need to get started)
  - We can provide **tech support**
- **Organizational** aspects:
  - **Howtos** on our webpage (“how to organize a training event”, ...)
  - We help you find **mentors** to help in the event
  - We find you a big **audience**
- **Inertia** & lack of **confidence**: Friendly and open weekly round tables (you are not alone)
- We are there to discuss on **mattermost** (=slack)
- It’s hard to find time for training → **hackathon**

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Without advertisement

$$\text{Engagement} = \max(0, \text{Intrinsic Motivation} \text{ ❤️} - \text{Obstacles} \text{ 🚧} )$$



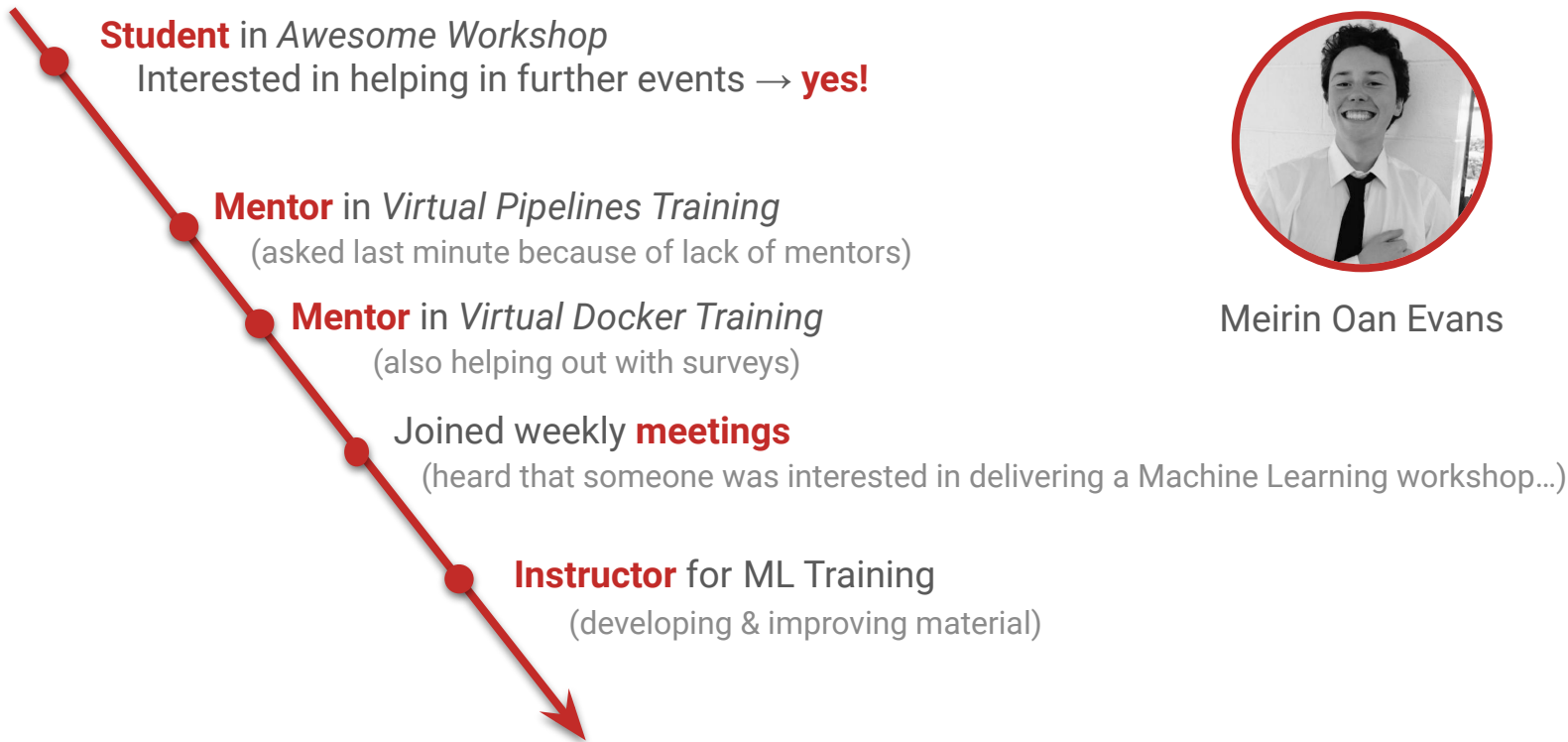
# Advertisement & Recruitment

- In order for this to work, we need **YOU** to **spread the word** about HSF training
  - To training WGs of your experiment
  - To colleagues who might have an interest
  - To students you supervise
- Start on a **low commitment-base**
  - “They teach you how to use Docker. It’s free!”
  - “I heard you’re still looking for tutors for your event. These people might help you.”
- During each event: **Advertise** our mission (links to the webpage, sharing personal experiences in mentoring sessions, ...)
- After each event: **Survey** collects emails of participants who are interested in contributing → **Follow up!**
- **Journey** starts there!
  - Students become mentors
  - Mentors become instructors and facilitators





# HSF Training Journey Case Study



Meirin Oan Evans



# Hackathon

- Ever wanted to “properly **teach this one thing**” or “make sure everyone does *this* right”? We got something for you!
- Excuse to block **3 days**, work with us and **make it happen!**
- **16-18 December**
- <https://indico.cern.ch/e/hacktraining>

## HSF Training Hackathon

16-18 December 2020  
Europe/Zurich timezone



Overview

Registration

Participant List

Contact

[kilian.lieret@cern.ch](mailto:kilian.lieret@cern.ch)

[Sudhir.Malik@cern.ch](mailto:Sudhir.Malik@cern.ch)

### The HSF Training Hackathon!

#### The big goal!

Training in software and computing is an essential ingredient for the success of any HEP experiment. As most experiments have similar basic prerequisites we want to join our efforts and create *one* introductory software training curriculum that serves HEP newcomers from all experiments. This curriculum is made up of independent training *modules* and should contain all software skills needed as they enter the field while instilling best practices for writing sustainable software.

We have started this work [here](#) and have completed and tested several of our modules to great success.

#### What are the next steps?

A lot remains to be done! First and foremost, we want to expand the selection of training modules that we can offer. We have already started the work on some modules, while others are yet to be kicked off.

This is where you come in!

Ever wanted to teach your favourite ingredient to a successful HEP analysis in a way that is sustainable and will reach a large audience? Then you're at the right place. We can offer support and help you find your audience. Your module will live at our [github organization](#) which opens it up to improvements from anyone who has a github account.

#### Tell me more about these training modules

Basically each module is a website like [this one](#) which is generated from a repository like [this one](#). Quite fancy, isn't it? Don't worry if the source looks a bit overwhelming at first glance. The whole content is conveniently written in [markdown](#), which will take you less than ten minutes to learn and we can help you to set up everything around it at the beginning.

The modules are suitable for self study, but can just as well be used to quickly roll out a training event ([more information](#)).



## Summary

You want to have a **high impact** and **advance HEP?**

**Training** might be your most effective choice!

Let's discuss!

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