



HEP Software Foundation

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LHCb



HSF status

















- A lot more happening now
- Working groups, including:
 - Packaging
 - Training
 - Concurrency forum
 - Track reconstruction forum
- Helping projects progress
- Technical Notes
- Knowledge Base (software directory)













HSF Workshop, Paris, 2-4 May




- At LAL in Orsay
- Registration closing date 25 April
- Sessions about HSF activities + other projects
 - eg Geant 4 technical forum
- Mixture of presentations, discussions, and hands-on “hackathons”
- Naturally HEP-orientated, but some talks from outside
 - eg Bioconductor
- <https://indico.cern.ch/e/HSFWorkshop2016>


Monday, 2 May 2016

09:30 - 10:30	Welcome - Registration	
10:30 - 12:30	Project Support in HSF <i>During this session, we'll present what is available at HSF to help projects, in particular new ones, and discuss what could be useful for HSF to do.</i>	
	 Project Support Se...	
12:30 - 14:00	Lunch	
14:00 - 15:00	HSF Status	
14:00	HSF Status 30' <i>Achievements since SLAC workshop</i>	
14:30	Community White Paper: a roadmap for the HSF? 30' Speaker: Peter Elmer (Princeton University (US))	
15:00 - 16:15	News from Projects	
15:00	Future Conditions DB 15' Speaker: Andrea Formica (CEA/IRFU, Centre d'etude de Saclay Gif-sur-Yvette (FR))	
15:15	AIDA2020 WP3 15' Speaker: Frank-Dieter Gaede (Deutsches Elektronen-Synchrotron (DE))	
15:30	DIANA/HEP 15' Speaker: Peter Elmer (Princeton University (US))	
15:45	Knowledge Base 15' Speaker: Torre Wenaus (Brookhaven National Laboratory (US))	
16:00	WikiToLearn 15' Speaker: Riccardo Giulio Iaconelli (Universita & INFN, Milano-Bicocca (IT))	
16:15 - 16:45	Coffee Break	
16:45 - 17:45	Learning from Other Communities	
16:45	Bioconductor: Open software for Bioinformatics 20' Speaker: Wolfgang Huber (EMBL)	
17:05	Netherlands eScience Center 20' Speaker: Daniela Remenska (NIKHEF (NL))	
17:25	Depsy 20'	








Tuesday, 3 May 2016

- 09:30 - 12:40 **Machine Learning** 
*Following various recent HEP and ML workshops (for example <http://cern.ch/DataScienceLHC2015>), this session focusses on issues *around* Machine Learning : how to allow HEP physicists to do cutting edge Machine Learning and foster collaboration with Machine Learners ? The agenda is very preliminary.*
Conveners: David Rousseau (LAL-Orsay, FR), Dr. Jean-Roch Vlimant (California Institute of Technology (US))
- 09:30 **Introduction 10'** 
Speakers: David Rousseau (LAL-Orsay, FR), Dr. Jean-Roch Vlimant (California Institute of Technology (US))
- 09:40 **Report from openLab ML workshop 15'** 
Speaker: Maria Girone (CERN)
- 10:00 **TMVA, Root-R, Root SciKit-learn 15'** 
Speaker: Lorenzo Moneta (CERN)
- 10:20 **Experience with Theano/Keras 15'** 

- 10:40 **Everware and yandex' rep 15'** 
Speaker: Andrey Ustyuzhanin (Yandex School of Data Analysis (RU))
- 11:00 **Codalab, a challenge platform on MS Azure 15'** 

- 11:20 **Beyond challenges, RAMP (ML oriented hackathon platform) 15'** 
Speaker: Balázs Kégl (Linear Accelerator Laboratory)
- 11:40 **Open Data 15'** 
Speaker: Kati Lassila-Perini (Helsinki Institute of Physics (FI))
- 12:00 **Open Sim : ACTS, A Common Tracking Software 15'** 

- 12:20 **Interexperiment Machine Learning group and HSF 15'** 
Speaker: Steven Randolph Schramm (Universite de Geneve (CH))
- 12:40 - 14:00 Lunch
- 14:00 - 15:30 **Packaging** 
Spack Hackathon - the Packaging Working Group identified spack (<https://github.com/LLNL/spack>) as a potential candidate for a HEP-wide build and packaging solution. During this session we will have a closer look at features important or unique to HEP. To see whether spack indeed fulfills all requirements of our community.
- 14:00 - 17:00 **RAMP: Machine Learning Hackathon on Anomaly Detection** 
Suppose you have two datasets which are supposed to be identical. For example MC production v1, MC production v2; data of yesterday, data of today. How to detect differences ? This is done typically by comparing rates, or manually defined histograms. How to do this in an automatized, Machine Learning way ? The objective will be to detect differences between two datasets, identical except for introduced manipulations. The RAMP platform allows participants to collaborate to achieve this goal.

This session will be in parallel with other sessions.
- 15:30 - 16:00 Coffee Break
- 16:00 - 18:00 **Geant4 Technical Forum** 
G4 technical forum at Orsay will be 90 minutes, 45 minutes of introductory presentations by Geant4 developers on recent new features and near future deliverables, followed by 45 minutes of users' presentations on their status/issues/requirements. This technical forum meeting is open to anybody including HSF members who have nothing to do with Geant4, to see as a model case how a software project would interact with its user community. We expect user participation would not be limited to HEP but also

Wednesday, 4 May 2016

- 09:30 - 12:30 **Software Performance** 
Conveners: Vincenzo Innocente (CERN), Markus Schulz (CERN), Paolo Calafiura (Lawrence Berkeley National Lab. (US))
  SW Performance s...
- 12:30 - 14:00 **Lunch**
- 14:00 - 17:00 **HSF Next Steps** 
- 14:00 **New Initiatives 1h0'** 
Follow-up on workshop discussions/plans, community roadmap...
- 15:00 **Community Roadmap 1h0'** 
Discuss possibility and contents of a community roadmap reflecting our computing challenges and that could be used as a reference by projects and in discussion with Funding Agencies
- 16:00 **Wrap-Up 30'** 



Conclusion

- Has taken a while to ramp up ...
- ... but happening now
- Lots of ways to get involved
 - Not limited to applications layer (Geant4 etc)
- For GridPP, technical notes are one immediate benefit
 - Turn knowledge/specification into a reference-able, long-lived document
- Registration for the HSF workshop in Paris is still open
- All at <http://hepsoftwarefoundation.org/>