

# **Future Analysis Systems and Facilities**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## **Welcome, IRIS-HEP Blueprint Activity & Workshop Overview (10')**

*Monday, October 26, 2020 9:00 AM (10 minutes)*

**Presenter:** NEUBAUER, Mark (Univ. Illinois at Urbana Champaign (US))

Contribution ID: 2

Type: **not specified**

## **End-to-End Analysis Vision & AS Grand Challenge (15'+5')**

*Monday, October 26, 2020 9:10 AM (20 minutes)*

**Presenter:** CRANMER, Kyle Stuart (New York University (US))

Contribution ID: 3

Type: **not specified**

## **Access & Manipulation of Complex Data Structures: Uproot & Awkward Array (10'+5')**

*Monday, October 26, 2020 9:30 AM (15 minutes)*

**Presenter:** PIVARSKI, Jim (Princeton University)

Contribution ID: 4

Type: **not specified**

## **Columnar Data Analysis: Coffea Tools (10'+5')**

*Monday, October 26, 2020 9:45 AM (15 minutes)*

**Presenters:** GRAY, Lindsey (Fermi National Accelerator Lab. (US)); SMITH, Nick (Fermi National Accelerator Lab. (US))

Contribution ID: 5

Type: **not specified**

## **Data Selection & Delivery for Analysis: ServiceX & funcADL (10'+10')**

*Monday, October 26, 2020 10:15 AM (20 minutes)*

**Presenter:** PROFFITT, Mason (University of Washington (US))

Contribution ID: 6

Type: **not specified**

## **Lorentz Vector Manipulation and Histogram Handling (10'+5)**

*Monday, October 26, 2020 10:00 AM (15 minutes)*

**Presenter:** SCHREINER, Henry Fredrick (Princeton University)

Contribution ID: 7

Type: **not specified**

## **Template-based Fitting: Cabinetry (10'+5')**

*Monday, October 26, 2020 11:05 AM (15 minutes)*

**Presenter:** HELD, Alexander (New York University (US))



Contribution ID: 8

Type: **not specified**

## **Toward Fitting-as-a-Service with pyhf (10'+10')**

*Monday, October 26, 2020 11:20 AM (20 minutes)*

**Presenter:** FEICKERT, Matthew (Univ. Illinois at Urbana Champaign (US))

Contribution ID: 9

Type: **not specified**

## **Differentiable Programming (15'+5')**

*Monday, October 26, 2020 11:40 AM (20 minutes)*

**Presenter:** CRANMER, Miles (Princeton University)

Contribution ID: 10

Type: **not specified**

## **Distributed Gradients for Differentiable Analysis (10'+5')**

*Monday, October 26, 2020 12:00 PM (15 minutes)*

**Presenter:** HEINRICH, Lukas Alexander (CERN)

Contribution ID: 11

Type: **not specified**

## **Simulation-Based Inference: Madminer on REANA (10'+5')**

*Monday, October 26, 2020 12:15 PM (15 minutes)*

**Presenter:** PEREZ CASTANO, Sinclert (New York University (US))

Contribution ID: 12

Type: **not specified**

# Session 1

Contribution ID: 13

Type: **not specified**

## Day 1 Wrap-up & Day 2 Outlook

*Monday, October 26, 2020 3:20 PM (10 minutes)*

Contribution ID: 14

Type: **not specified**

## Summary & Outcomes from Day 1 (10')

*Tuesday, October 27, 2020 9:00 AM (10 minutes)*

**Presenters:** BOCKELMAN, Brian Paul (University of Wisconsin Madison (US)); CRANMER, Kyle Stuart (New York University (US))

Contribution ID: 15

Type: **not specified**

## **Analysis Facilities - US CMS Computing Operations Perspective (10'+5')**

*Tuesday, October 27, 2020 9:10 AM (15 minutes)*

**Presenters:** BOCKELMAN, Brian Paul (University of Wisconsin Madison (US)); HILDRETH, Mike (University of Notre Dame (US))



Contribution ID: 16

Type: **not specified**

## **Analysis Facilities - US ATLAS Computing Operations Perspective (10'+5')**

*Tuesday, October 27, 2020 9:25 AM (15 minutes)*

**Presenter:** DE, Kaushik (University of Texas at Arlington (US))

Contribution ID: 17

Type: **not specified**

## **Prototyping Analysis Systems with the IRIS-HEP Scalable Systems Laboratory (10'+10')**

*Tuesday, October 27, 2020 9:55 AM (20 minutes)*

**Presenter:** GARDNER JR, Robert William (University of Chicago (US))

Contribution ID: **18**

Type: **not specified**

## **FABRIC: Friends of Physics (10'+5')**

*Tuesday, October 27, 2020 10:15 AM (15 minutes)*

**Presenter:** NIKOLICH, Anita (University of Illinois at Urbana-Champaign)

Contribution ID: 19

Type: **not specified**

## **Data Challenges (10'+10')**

*Tuesday, October 27, 2020 10:30 AM (20 minutes)*

**Presenter:** WURTHWEIN, Frank (UCSD)

Contribution ID: 20

Type: **not specified**

## **Analysis on LHC-Managed Facilities: Coffea-Casa (15'+5')**

*Tuesday, October 27, 2020 11:20 AM (20 minutes)*

**Presenter:** SHADURA, Oksana (University of Nebraska Lincoln (US))

Contribution ID: 21

Type: **not specified**

## **Analysis on LHC-Managed Facilities: K8-based Tier-3 (10'+10') [TBC]**

Contribution ID: 22

Type: **not specified**

## **Analysis in the Cloud: Amazon Web Services (10'+5')**

*Tuesday, October 27, 2020 11:40 AM (15 minutes)*

**Presenter:** Dr BAWA, Harinder Singh (California State University (US))

Contribution ID: 23

Type: **not specified**

## **Analysis in the Cloud: Google Cloud Platform (10'+5')**

*Tuesday, October 27, 2020 11:55 AM (15 minutes)*

**Presenter:** ELMSHEUSER, Johannes (Brookhaven National Laboratory (US))



Contribution ID: 24

Type: **not specified**

## **Hyper-parameter optimization for machine learning via iDDS on Grid and HPC Resources (10'+5')**

*Tuesday, October 27, 2020 12:10 PM (15 minutes)*

**Presenter:** ZHANG, Rui (University of Wisconsin Madison (US))

Contribution ID: 25

Type: **not specified**

## **Scalable Parallel Analysis in Python on HPCs (10'+5')**

*Tuesday, October 27, 2020 12:25 PM (15 minutes)*

**Presenters:** KOWALKOWSKI, James (Fermi National Accelerator Lab. (US)); PATERNO, Marc (Fermi National Accelerator Laboratory (FNAL)); SEHRISH, Saba (Fermilab)

Contribution ID: 26

Type: **not specified**

## **Reproducible Analysis Workflows on Heterogeneous Resources (10'+5')**

*Tuesday, October 27, 2020 12:40 PM (15 minutes)*

**Presenter:** HURTADO ANAMPA, Kenyi Paolo (University of Notre Dame (US))

Contribution ID: 27

Type: **not specified**

## Day 2 Wrap-Up & Next Steps

*Tuesday, October 27, 2020 3:50 PM (10 minutes)*

Contribution ID: 28

Type: **not specified**

## **An Integrated Data Query Pipeline: HEPTables (10'+5')**

*Monday, October 26, 2020 10:50 AM (15 minutes)*

**Presenter:** WATTS, Gordon (University of Washington (US))

Contribution ID: 29

Type: **not specified**

## **Toward Arrow-Native Storage and Coffea Processor Integration with SkyHookDM (10'+5')**

*Tuesday, October 27, 2020 11:05 AM (15 minutes)*

**Presenters:** Dr JIMENEZ, Ivo (UC Santa Cruz); LEFEVRE, Jeffrey (University of California, Santa Cruz)

Contribution ID: 30

Type: **not specified**

## **"Big Church" Analysis Facility Concept (10'+5')**

*Tuesday, October 27, 2020 9:40 AM (15 minutes)*

**Presenter:** CALAFIURA, Paolo (Lawrence Berkeley National Lab. (US))

Contribution ID: 31

Type: **not specified**

## Example of Tying Together Components

**Presenter:** Dr STARK, Giordon Holtsberg (University of California, Santa Cruz (US))



Contribution ID: 32

Type: **not specified**

## **Example of Tying Together Components for an Analysis Pipeline**

*Monday, October 26, 2020 1:10 PM (15 minutes)*

**Presenter:** STARK, Giordon Holtsberg (University of California,Santa Cruz (US))

**Session Classification:** Future Analysis Systems Discussion

Contribution ID: 33

Type: **not specified**

## **Excursion: Efficient Reinterpretation Campaigns with Active Learning (10'+5')**

*Tuesday, October 27, 2020 12:55 PM (15 minutes)*

**Presenter:** ESPEJO MORALES, Irina (New York University)