

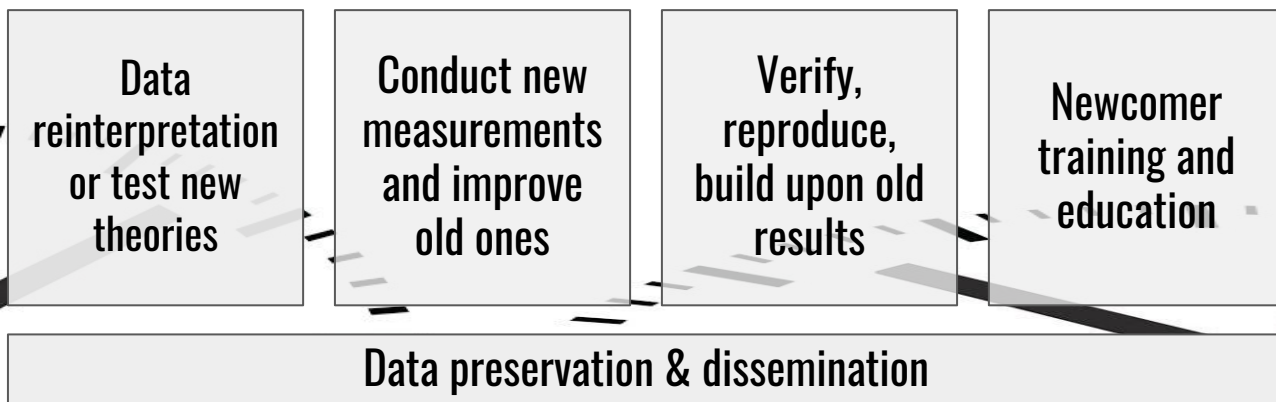
DATA PRESERVATION AND REINTERPRETATION

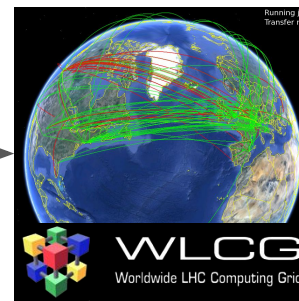
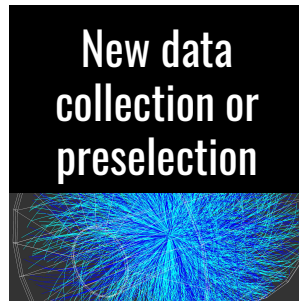
Ana Trisovic, Harvard University
previously with: LHCb, CERN Open Data
and CERN Analysis Preservation

Snowmass Community Planning Meeting
October 6, 2020

"Ten or 20 years ago we might have been able to repeat an experiment. They were simpler, cheaper and on a smaller scale. Today that is not the case. So if we need to re-evaluate the data we collect to test a new theory or adjust it to new development, we are going to have to be able reuse it."

~ Rolf-Dieter Heuer, Director General of CERN in 2009-2015





CERN data preservation & dissemination strategies



nature physics PERSPECTIVE
 Open is not enough

Xiaohu Chen¹, Sangeeta Datta², Robin Davies³, Sebastian Eggert⁴, Pericles Faloutsos⁵, Jose Benito Gonzalez⁶, Henri Hertenstein⁷, Elena Koukouli⁸, Artemis Lavezzi⁹, Sebastian Muesel¹⁰, Diego Rodriguez Rodriguez¹¹, Tibor Samko¹², Ana Trifunovic¹³, Anna Trifunovic¹⁴, Ivan Tsvetkov¹⁵, Marko Zimmermann¹⁶, Filip Zeman¹⁷, Lukas Zeman¹⁸, Gordon Watts¹⁹, Michael Hildebrand²⁰, Lara Lorent Iglesias²¹, Kati Lovell-Pearce²² and Sebastian Neubert²³

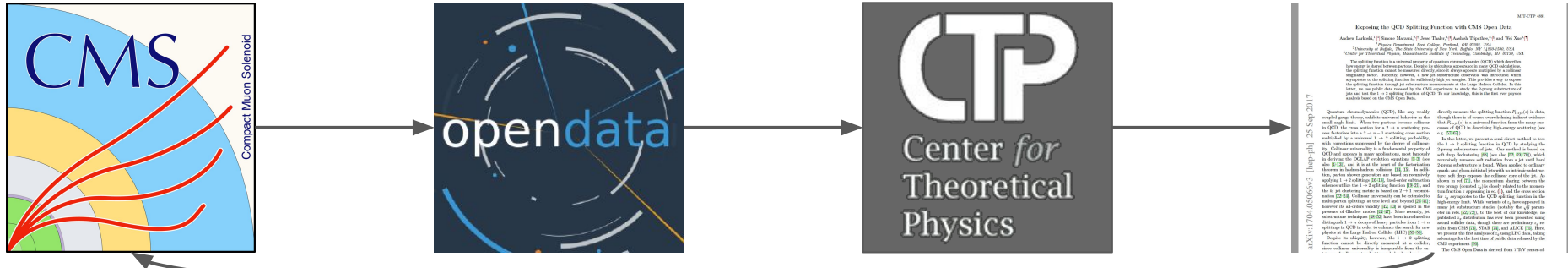
Open science and reproducible research have become key goals across research communities, public and private alike. The understanding of what open and reproducible research means varies across disciplines. In some cases, open access and dissemination are desirable, but the underlying research is not open to scrutiny and replication. In other cases, open access and dissemination are essential for the progress of the field, but the underlying research is not open to scrutiny and replication. In this article, we discuss the challenges of open science and open access, and the implications for the high-energy physics community.

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WHAT ARE THE BENEFITS OF OPEN SCIENCE PROJECTS?

- Detailed data documentation and portable software created for open science projects also help internal researchers and newcomers.
- Resources for data reinterpretation can initiate new collaborations.
- Providing outreach and education resources may positively impact future grant applications.
- Get new physics results (a success story):



Conclusion: To maximize the potential of your HEP experimental data and reap the benefits of open science, it is essential to establish **open data policies** early-on in new collaborations.