

# COLLOQUIUM

## Reconstruction of Pioneering Physics Experiments: Importance and Lessons Learned

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Fermilab

**October 17, 2018**

4:00 p.m. - Wilson Hall, One West

Reproducibility is a growing issue in modern science - situation with high impact results in social sciences, medicine and even biology and chemistry is often described as a crisis. Physics stands out as arguably the most reproducible discipline due to very high and universally applied standards. Seminal discoveries of the past undergo critical questioning and analysis, too. Reconstruction of pioneering physics experiments of the Enlightenment helps us to understand the development of "repeatable" Nature-philosophy. I will overview several modern-day experimental replications of the early days physics and astronomy breakthroughs, present in detail recent international collaborative project of replication of the discovery of Venus' atmosphere and discuss other opportunities for replication of famous experiments.

Big part of the presentation will be based on what was recently published in Physics Today:

<https://physicstoday.scitation.org/doi/10.1063/PT.3.1894>