

# Physics Colloquium

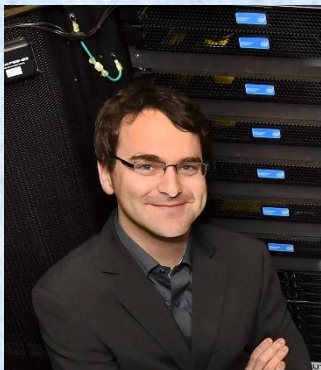
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Monday, March 11, 2019 / Pupin Hall Theory Center, 8<sup>th</sup> Floor / 12:30 PM

*Lunch will be available for attendees*

## **“The anomalous magnetic moment of the muon”**

Since the final report of the BNL E821 experiment in 2006 the muon’s anomalous magnetic moment has exhibited a tension with the standard model theory calculation of 2 to 3 sigma, possibly indicating contributions from new physics. Refinements on the theory side have elevated the tension to around 3.7 sigma as of 2018 with experimental and theory uncertainties approximately balanced. The new Fermilab E989 experiment aims to reduce the experimental uncertainty by a factor of four with first results anticipated in the summer of 2019. A vigorous theory effort is underway to match this improvement in order to clarify the tension over the next years. I will report on the current theory status and expected future improvements.



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