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Dmitriy Morozov* (dmorozov@lbl.gov). *From Nanoporous Materials to Cosmology: Applied Topology at the National Labs.*

The talk will discuss the role of applied topology in the National Laboratory research, focusing on both the opportunities and the challenges. Specifically, we will show how combining persistent homology and machine learning helps identify nanoporous materials suitable for methane storage. And how the massive data sets generated by cosmologists require new algorithmic research in computational topology. (Received September 16, 2019)