



FLUID DYNAMICS PROBLEMS AT THE UNIVERSITY OF MARYLAND - AN OPPORTUNITY TO ENGAGE

Friday, March 10, 2023 | 11am

DeWalt Semiar Room
2164 Glenn L. Martin Hall

Speaker

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ABSTRACT

Our campus has serious but interesting problems associated with the waste of steam and water whose scale is truly impressive. By some measure 700 million gallons per year of water are lost in our steam system. I'll detail some aspects of this problem and its many faces: (1) steam is lost going toward the buildings where it is used for heating, (2) water is lost in condensed steam that fails to return to the trigen facility, (3) makeup water must be purchased and purified, (4) chemicals are purchased and added to the makeup water, (5) water is lost into the storm drain system (approx. 1 million gallons per day into the river) and (6) additional fuel must be used to reheat the makeup water leading to additional campus emissions. Most importantly I will highlight how these are an opportunity for contributions from students and faculty to remediate this ongoing environmental problem - in part through a Provost Grand Challenge funded project. I hope for a discussion of what types of fluid metrology might be used or developed to triage our campuswide problem.

BIO

Daniel Lathrop is Professor of Physics at the University of Maryland and a Fellow of the American Physical Society. His research in the Nonlinear Dynamics group at Maryland focuses on turbulent fluid flows, geomagnetism, and experiments on superfluid helium. Dr. Lathrop is also Professor of Geology. Dr. Lathrop received a B.A. in physics from the University of California at Berkeley in 1987, and a Ph.D. in physics from the University of Texas at Austin in 1991. He then served at Yale University as a postdoctoral fellow, research affiliate, and lecturer, and as Assistant Professor at Emory University. He joined the University of Maryland in 1997, the year he received a Presidential Early Career Award from the National Science Foundation.

