

Thursday, February 2, at 3:30 pm

UMass Lowell

Simple Pendulum on a NASA Reduced Gravity Flight (aka Vomit Comet)

Gary Garber (Boston University Academy)

My team of four teachers experimented with a simple pendulum on a NASA Reduced Gravity Education Flight (also known as the Vomit Comet). Your students can measure the period of the pendulum on our flight using accelerometer data from Vernier sensors. We also videotaped the results and image analysis can be used to measure the period. We used both a string pendulum and a rigid rod pendulum. Our data includes results from hyper gravity (2g), Martian gravity, lunar gravity, Earth gravity, and microgravity. Learn how you can access and analyze the data in your classroom. I will also discuss the process of creating a proposal for a NASA reduced gravity education flight and other opportunities for you and your students with NASA.

followed by

Shared Demonstrations

Bring a physics demonstration on any physics topic and enter the demonstrators' raffle. Demonstrations must take no more than FIVE minutes.

<i>ROOM:</i>	<i>Cumnock Hall Auditorium</i> <i>(see other side for directions)</i>
<i>PARKING:</i>	<i>see other side for information</i>
<i>SCHEDULE:</i>	3:30 <i>Registration, Discussion, & Refreshments</i> 3:45 <i>"Simple Pendulum on a ..."</i> 4:45 <i>Announcements and Raffle</i> 5:00 <i>Demonstrations</i> 6:00 <i>Conclusion</i>
<i>INFORMATION</i>	<i>Art Mittler (978) 934-3775</i>
<i>& ENQUIRIES:</i>	<i>Arthur_Mittler@uml.edu</i>

Gary Garber teaches physics, math, and engineering at Boston University Academy. He earned his B.S in Astronomy from Haverford College and a M.A. in Physics from Boston University. He also oversees the science and engineering research program for Academy students who spend their summer working in research laboratories at Boston University. Gary is currently the President of the New England Section of the American Association of Physics Teachers and has led dozens of professional development workshops on both the local and national level. In the past three years he has won several awards including the Suffolk County Science Teacher of the Year Award, MIT Inspirational Teacher of the Year Award, the Above and Beyond Teacher Award from the Mass Technology Leadership Council and the Best Teacher Award from the New England Junior Science and Humanities Symposium.

Gary runs the Boston University FIRST Robotics program. He organized several professional engineers and undergraduates to mentor the high school students on the BU Academy robotics team. In the past three years he has run and hosted numerous professional development workshops in VEX, FIRST Tech Challenge, and LEGO platforms. He has hosted several robotics competitions in all of these platforms and spoken on robotics education at both local and national conferences. His robotics team has worked with Engineers Without Borders, NASA, and the National Science Teachers Association on a variety of engineering and education projects. Last year, his team won the prestigious FIRST Boston Regional Chairman's Award for their outreach to the community and promotion of collaboration and engineering education.

Gary is currently on sabbatical from Boston University. While on sabbatical he has flown an experiment on a NASA Reduced Gravity Flight and participated in a Teachers In Space workshop. He is currently consulting at the Tufts Center for Engineering Education and Outreach where he is working in LEGO Robotics Education and is the Design Team lead for a collaborative and inquiry based Smart Textbook platform. His other activities are developing curricular materials for LabView and LEGO NXT for image processing and music.

Parking No permits will be issued. Please park in the **Riverside Faculty/Staff** parking lot, the entrance to the lot is from Riverside Street and is alongside of Olney Hall (NOT on Sparks Street).see <http://www.uml.edu/maps/> click on Parking –Faculty/Staff. If you click on the ‘pushpin’ there will be a link for driving **directions**. I will have someone to let you in the lot if the gate is still down. Please identify yourself as someone who is attending the LRPA meeting. Alternative parking will be also available at the **Riverside Student** parking lot after 3:30 p.m. if the faculty/staff lot is full.

Cumnock Hall Auditorium see link <http://www.uml.edu/maps> click on Administrative Offices, click on Academic and Student Services; picture of the front of Cumnock Hall will appear. Go up the front steps and walk directly forward into the auditorium.