Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Newton's Bridge Learning Community: Can Student Learning in Introductory Physics and Calculus be a Pathway to Undergraduate Research?[1] EUGENE LI, Montgomery College — A pathway to undergraduate research for freshman level physics through interdisciplinary pairings of physics and calculus courses is examined. Through "pairing courses," active learning approaches, and jointly constructed inquiry-based course activities, students formulate and investigate a "research problem." Some effects of a student-peer-mentor program is also examined. The use of technology incorporated into "theme-focused" activities is outlined. Some of the technological components include the iPad, Vernier sensors with related software, and introductory MATLAB. This presentation analyzes some of the outcomes of the learning community pairing of calculus-based Physics I (Mechanics and Heat) and Math (Calculus II), called a "A Journey Across Newton's Bridge," and also the follow-up course pairing calculus-based Physics II (Electricity and Magnetism) and Multi-variable calculus called "Multi-Dimensional Experiences" which are being offered at Montgomery College.

[1]Acknowledge support of the Department of Physics, Engineering and Geoscience, Montgomery College, Noyce TPOD-STEM, and GT-STEP Grants.

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Date submitted: 15 Nov 2013 Electronic form version 1.4