

Mathematics Colloquium

When: Friday, September 4, 2:40-3:30pm

Where: Mathematics/Geology Building, Room MG 120

BRIDGING THE GAP BETWEEN MATHEMATICS AND THE PHYSICAL SCIENCES

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As with Britain and America, mathematicians are separated from other scientists by a common language. Casual discussions with those in other disciplines suggest far more agreement than exists in fact. In a nutshell, mathematics is about functions, but science is about physical quantities. This has far-reaching implications not only for the teaching of lower-division mathematics "service" courses, but also for the training of mathematicians.

For the last decade, we have led an NSF-supported effort to bridge this gap at the level of second-year calculus. The unifying theme we have discovered is to emphasize geometric reasoning, not (just) algebraic computation. In this talk, we will illustrate the language differences between mathematicians and physicists in particular, and what this implies for the teaching of mathematics in general, and vector calculus in particular.

Further information about the Bridge Project can be found at:

[http : //www.math.oregonstate.edu/bridge](http://www.math.oregonstate.edu/bridge)