



**Homi Bhabha Centre for Science Education (TIFR)**  
**National Initiative on Undergraduate Science (NIUS)**  
**NIUS Seminar**

## **Bridging the Gap: Vector Calculus in Mathematics and Physics**

Students often have trouble "bridging the gap" between the different presentations of vector calculus in mathematics and physics courses, even though they tend to cover the same topics. In education research at Oregon State University, the speaker and his group have discovered radical differences in the ways in which mathematicians and physicists think about these ideas. He will describe their efforts to bridge this gap through the use of geometric reasoning.

**Date: Wednesday, March 15, 2017**

**Time: 04:00 p.m.**

by **Prof. Tevian Dray**

*Dept of Mathematics  
Oregon State University  
USA*



Professor Tevian Dray has worked in general relativity, mathematical physics, geometry, and both science and mathematics education. His research results include confirmation of the existence of solutions of Einstein's equation containing gravitational radiation and the use of computer algebra to classify exact solutions of Einstein's equation. In addition to his ongoing work in mathematical physics, he has made significant contributions in science education, where he directs the Vector Calculus Bridge Project, an attempt to teach vector calculus the way it is used by scientists and engineers, and is part of the development team of the Paradigms Project, a complete restructuring of the undergraduate physics major around several core "paradigms".

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**Venue: NIUS Lecture Hall**

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