

The Humboldt State University  
Department of Mathematics

Presents:

# *The 59th Harry S. Kieval Lecture* \*\*

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*Tuesday, March 20, 2012*

*7:30 P.M.*

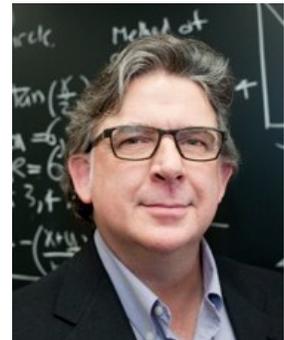
*Founders Hall Room 118*

## **William G. McCallum**

Professor of Mathematics  
University of Arizona



**COMMON CORE**  
STATE STANDARDS INITIATIVE  
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER



### **Coming Together To Help Children Learn Mathematics: The Common Core State Standards**

Over 85% of the population of the United States lives in states that have adopted the Common Core State Standards in Mathematics. By coming together in this way we have an opportunity to improve mathematics education dramatically if we follow through with good curriculum and teaching that takes advantage of the focus and coherence of the standards, and makes use of the power of sharing. Prof. McCallum will describe the prospects and perils ahead, and talk about what parents, educators, and mathematicians can do to help achieve the promise of the standards.

\*\*A lecture on some popular and/or broad aspects of mathematics attractive to undergraduates and the public

For more information go to: <http://www.humboldt.edu/math/kieval/index.html>

HSU is an AA/EO institution.

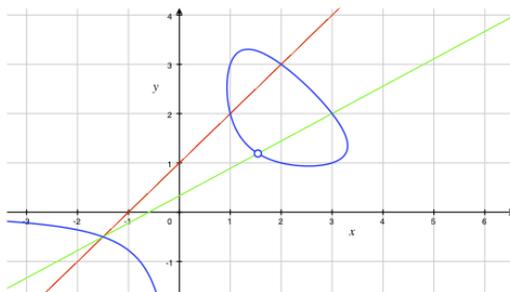
Disability accommodations may be available from event sponsor at 826-3143

## MATHEMATICS DEPARTMENT COLLOQUIUM

# William G. McCallum

University of Arizona

## From Triangles to Elliptic Curves



**Tuesday, March 20, 2012, 4:00 P.M.**

**Forestry Building Room 208**

**Pre-Colloquium Tea**

**Behavioral Social Science Building 3<sup>rd</sup> Floor Alcove 3:30 P.M.**

Can two non-congruent triangles have the same area and the same perimeter? Can you find two such triangles with the additional requirement that they are Heron triangles (triangles with rational area and perimeter)? These simple questions lead into an investigation which starts with high school algebra and geometry and culminates in number theory research being done today. The journey includes a beautiful formula for the area of a triangle, Heron's formula, and an exploration of rational points on elliptic curves. We'll explore some of these questions together, and at the end of the talk every member of the audience will be allowed to take home their own Heron triangle.

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William G. McCallum is a University Distinguished Professor of Mathematics and Head of the Department of Mathematics at the University of Arizona. Born in Sydney, Australia in 1956, he received his Ph.D. in Mathematics from Harvard University in 1984, under the supervision of Barry Mazur. After spending two years at the University of California, Berkeley, and one at the Mathematical Sciences Research Institute in Berkeley, he joined the faculty at the University of Arizona in 1987. In 1989 he joined the Harvard calculus consortium, and is the lead author of the consortium's multivariable calculus and college algebra texts. In 1993-94 he spent a year at the Institut des Hautes Études Scientifiques, and in 1995-96 he spent a year at the Institute for Advanced Study on a Centennial Fellowship from the American Mathematical Society. In 2005 he received the Director's Award for Distinguished Teaching Scholars from the National Science Foundation. In 2006 he founded the Institute for Mathematics and Education at the University of Arizona. He was Director of the Institute until 2009 and now chairs its advisory board. In 2009-2010 he was one of the lead writers for the Common Core State Standards in Mathematics. His professional interests include arithmetical algebraic geometry and mathematics education. He has received grants and written articles, essays, and books in both areas.