

About the Hayden-Howard Lecture

Inaugurated in the spring semester of 2001 by a generous contribution to the UK Department of Mathematics, the Hayden-Howard Lecture series was established to honor mathematics professors Thomas Hayden and Henry Howard.

This series endows an annual lecture by a research mathematician of international stature.

For more information about giving to the UK College of Arts and Sciences, contact (859) 257-5455 or www.as.uky.edu

Previous Hayden-Howard Lecturers

- 2000-2001 **Richard Stanley**, MIT
- 2001-2002 **Craig Evans**, University of California, Berkeley
- 2002-2003 **Craig Huneke**, University of Kansas
- 2003-2004 **Doron Zeilberger**, Rutgers University
- 2004-2005 **Gang Tian**, Princeton University and MIT
- 2005-2006 **Fanhua Lin**, Courant Institute, New York University
- 2006-2007 **John Neuberger**, University of North Texas
- 2007-2008 **Joachim Rosenthal**, University of Zürich
- 2008-2009 **Carlos Kenig**, University of Chicago

Department of Mathematics
University of Kentucky

2009-2010 Hayden-Howard Lecture

Professor David Eisenbud
University of California at Berkeley



Photo by G. Leuschke

Plato's Cave:
How much can you tell from
a shadow on the wall?

Thursday, March 25, 2010
4:00 pm

White Hall Classroom Building (CB), Room 114
Refreshments served at 3:30 pm outside CB 114

About the Speaker

David Eisenbud is a Professor of Mathematics at the University of California, Berkeley and was Director of the Mathematical Sciences Research Institute (MSRI) from 1997 to 2007.

Eisenbud received his PhD in mathematics in 1970 at the University of Chicago under Saunders MacLane and Chris Robson, and was on the faculty at Brandeis University before coming to Berkeley, where he became Professor of Mathematics in 1997. In 2009 he was appointed Vice President for Mathematics and the Physical Sciences at the Simons Foundation, a position he will occupy two-thirds time while continuing to teach at Berkeley. He has been a visiting professor at Harvard, Bonn, and Paris.

Eisenbud's mathematical interests range widely over commutative and non-commutative algebra, algebraic geometry, topology, and computer methods.

In addition to his work in Berkeley, Eisenbud was President of the American Mathematical Society from 2003 to 2005. He is a Director of Math for America, a foundation devoted to improving mathematics teaching. He has been a member of the Board of Mathematical Sciences and their Applications of the National Research Council, and is a member of the US National Committee of the International Mathematical Union. In 2006 Eisenbud was elected a Fellow of the American Academy of Arts and Sciences. He was awarded the Leroy P. Steele Prize for Mathematical Exposition by the American Mathematical Society in 2010.

Eisenbud is Chair of the Editorial Board of the Algebra and Number Theory journal, which he helped found in 2006, and serves on the Boards of the Bulletin du Société Mathématique de France, and Springer-Verlag's book series Algorithms and Computation in Mathematics.

Eisenbud's interests outside of mathematics include theater, music and juggling. He is co-author of a paper on the mathematics of juggling. He plays the flute and enjoys singing Bach, Brahms, Schubert, Schumann....

Plato's Cave: How much can you tell from a shadow on the wall?

Abstract

Classical algebraic geometers studied curves by projecting them into the plane, and studied surfaces by projecting them into 3-space.

How much information is lost in such projections?
What happens in higher dimensions?

Much progress has been made on these questions, but very simple problems remain. I will explain the basic ideas and how they lead to current research.