

## News Release

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## **“Not on the Test: The Pleasures and Uses of Mathematics” 2013-14 MSRI-BCC Lecture Series Highlights Unique Uses of Math Across Industries, in Daily Life**

**BERKELEY** – “Not on the Test: The Pleasures and Uses of Mathematics,” a six-part lecture series co-presented by Berkeley’s Mathematical Science and Research Institute (MSRI) and Berkeley City College (BCC), begins at 7 p.m., Wed., Sept. 11, in BCC’s auditorium, 2050 Center St., with “Math in the Movies,” a presentation by Pixar’s Tony DeRose. This and all lectures in the year-long series, made possible with funding from the Simons Foundation, are free and open to the public.

“Both playing and working, we use tools that are ‘made of’ mathematics. This series of talks will help appreciate and enjoy this daily—but usually unconscious—interaction,” said Dr. David Eisenbud, Director of MSRI. “The speakers were selected for their expertise, their passion, and their ability to explain what they do in a way that can be understood by all.”

BCC President Deborah Budd praised the MSRI/BCC collaboration: “Berkeley City College is delighted to collaborate with MSRI in bringing this enlightening lecture series to the public. It will provide invaluable and creative insights for students and our community,” said Dr. Budd, “and will help everyone understand the many ways in which mathematics is used as a foundation for some of our most worthy endeavors.”

All MSRI-BCC lectures will take place at 7 p.m., Wednesdays in BCC’s auditorium, 2050 Center St. between Shattuck Ave. and Milvia St., in Berkeley, on Sept. 11, Oct. 9, Nov. 6, Feb. 12, Mar. 12, and Apr. 9. Please visit [www.msri.org/events/nott](http://www.msri.org/events/nott). Lecturers and topics include:

- **“Math in the Movies,” Wed., Sept. 11, with [Dr. Tony DeRose](#).** DeRose, senior scientist and research group leader at Emeryville’s Pixar Animation Studios, will illustrate the extraordinary contribution of mathematics to animated films. Math and science underlie the stunning visuals that are essential to storytelling in Pixar’s award-winning movies. Using numerous clips from such productions as *Finding Nemo*, *Ratatouille*, *The Incredibles*, *Monsters, Inc.* and *Brave*, DeRose will demonstrate how computer technology, physics, geometry, and applied math make possible special effects.
- **“Video Games for Mathematics,” Wed., Oct. 9, with [Dr. Keith Devlin](#).** Devlin will show how casual games that provide representations of mathematics enable children (and adults) to learn basic mathematics by “playing,” in the same way we learn music by learning to play the piano. Prof. Devlin is a mathematician at Stanford University, a co-founder and executive director of the university’s H-STAR institute, a co-founder of the Stanford Media X research network, a senior researcher at CSLI, and co-founder and president of InnerTube Games.

- **“Verifying Greenhouse Gas Emissions,” Wed., Nov. 6, with [Dr. Inez Fung](#).** As international, national and local targets for greenhouse gas emissions are discussed and implemented, how well do we know that the targets are being met? Dr. Fung will show how data assimilation techniques are used to merge observations with models to test concordance between “bottom-up” reported emissions and “top-down” estimates inferred from their atmospheric signatures. Dr. Fung has studied climate change for 20 years. She is a principal architect of large-scale mathematical modeling approaches and numerical models to represent the geographic and temporal variations of sources and sinks of CO<sub>2</sub>, dust and other trace substances around the globe. She is a professor of atmospheric science in U.C. Berkeley’s earth and planetary science and environmental science, policy and management departments.
- **“Music, Computing, People,” Wed., Feb. 12, with [Dr. Ge Wang](#).** Ge Wang is an assistant professor at Stanford University in the Center for Computer Research in Music and Acoustics (CCRMA). He researches programming languages and interactive software systems for computer music, mobile and social music, laptop orchestras, and education at the intersection of computer science and music. Dr. Wang is the author of the ChucK audio programming language, is founding director of the Stanford Laptop Orchestra (SLOrk) and of the Stanford Mobile Phone Orchestra (MoPhO). He also co-founded Smule, and is the designer of the iPhone’s Ocarina and Magic Piano.
- **“Science Denialism,” Wed., Mar. 12, with [Dr. Eugenie Scott](#).** Both evolution and global warming are “controversial issues” in education, but are not controversial in the world of science. There is remarkable similarity in the techniques that are used by both camps to promote their views. The scientific issues are presented as “not being settled,” or that there is considerable debate among scientists over the validity of claims. The presentation will explore and expand on these issues. Dr. Scott is executive director of the National Center for Science Education, Inc., a not-for-profit membership organization of scientists, teachers, and others that works to improve the teaching of science as a way of knowing, the teaching of evolution, and the teaching of climate change. A former college professor, she is an internationally-known expert on the creationism and evolution controversy, and is called upon by the press and other media to explain science to the general public. The author of *Evolution vs Creationism: An Introduction* and co-editor with Glenn Branch of *Not in Our Classrooms: Why Intelligent Design is Wrong for Our Schools*, she is the recipient of numerous awards from scientists and educators.
- **“Brain-Computer Interfaces,” Wed., Apr. 9, with [Dr. Krishna Shenoy](#).** Dr. Shenoy, a professor at Stanford University, directs the Neural Prosthetic Systems Lab (NPSL) where his group conducts neuroscience and neuroengineering research to better understand how the brain controls movement, and to design medical systems to assist those with movement disabilities. He also co-directs the Neural Prosthetics Translational Lab (NPTL), along with Dr. Jaimie Henderson. They are employing these advances to help people with severe motor disabilities such as spinal cord injury and ALS. Dr. Shenoy was a recipient of National Science Foundation and Hertz Foundation Graduate Fellowships, the 1996 Hertz Foundation Doctoral Thesis Prize, a 1999 Burroughs Wellcome Fund Career Award in the Biomedical Sciences, a 2002 Alfred P. Sloan Research Fellowship, a 2007 McKnight Endowment Fund in Neuroscience Technological Innovations in Neurosciences Award, a 2009 National Institutes of Health Director’s Pioneer Award, the 2010 Stanford University Postdoctoral Mentor Award, and the 2013 University of California at Irvine Distinguished Alumnus Award (Henry Samueli School of Engineering).

The “Not on the Test: The Pleasures and Uses of Mathematics” series of lectures is sponsored by the Simons Foundation ([www.simonsfoundation.org](http://www.simonsfoundation.org)) and co-presented by the Mathematical Sciences Research Institute and Berkeley City College.

**About MSRI:** The **Mathematical Sciences Research Institute (MSRI, [www.msri.org](http://www.msri.org))**, in Berkeley, California, is one of the world's preeminent centers for research in the mathematical sciences and has been advancing mathematical research through workshops and conferences since its founding as an independent institute in 1982. Approximately 2,000 mathematicians visit the MSRI each year, and the Institute hosts about 85 leading researchers at any given time for stays of up to one academic year. The Institute has been funded primarily by the National Science Foundation with additional support from other government agencies, private foundations, corporations, individual donors, and nearly 100 academic institutions. MSRI is involved in K-12 math education through its annual Critical Issues in Mathematics Education conferences for educators, math circles, the National Association for Math Circles and its website (NAMC, [www.mathcircles.org](http://www.mathcircles.org)), and Olympiad math competitions; in undergraduate education through its MSRI-UP program; and in public education through its "Conversations" series and a variety of public events.

**About BCC: Berkeley City College (BCC) ([www.berkeleycitycollege.edu](http://www.berkeleycitycollege.edu))**, one of California's 112 community colleges, is part of the Peralta Community College District, which includes Laney College, Merritt College and College of Alameda. The college, which began in 1974, is centrally located in downtown Berkeley, only two blocks from the U.C. Berkeley campus. BCC's mission is to contribute to the success of all students and to the well-being of the community by offering the best possible education which promises intellectual growth, social mobility, economic development and an understanding of diverse ideas and peoples. The college is accredited by the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges. BCC offers transfer and occupational training classes, associate degree and certificate programs. The college is an active partner in local economic development and employment training endeavors. Financial aid, academic and career counseling, programs for students with disabilities and assistance for economically disadvantaged students are available. The college maintains a strong and unique community college/university collaboration with the University of California at Berkeley. BCC is second in California in the percentage of students who transfer to U.C. Berkeley and is second in the state in the percentage of students who transfer to all U.C. campuses in Northern California.

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