



The Fourth Adventures in Mathematics

--Cooking with Mathematics

FUN ACTIVITIES • FRIDAY, FEBRUARY 26, 2016 • 8:30 AM – 3:00 PM

Adventures in Mathematics (AIM), a finalist of the 2015 Tech Titans Award (<http://www.techtitans.org/>)-the Future University, is an annual event organized by the Department of Mathematics at Texas A&M University Commerce for high school math teachers and their students. They will be involved in hands-on activities in math, listen to talks on math careers, watch planetarium shows, tour campus, and experience a lunch in the student cafeteria. The purpose of AIM is to increase students' interests in learning Mathematics and offer teachers examples, methods and stories, which can be used in classrooms. High school teachers may receive a certificate of Continuing Professional Development Units upon request. A registration fee of \$3 per participant is required that covers all activities, refreshments and lunch. High schools are responsible for their transportations to Commerce, TX.

For AIM, we also organize the Northeast Texas Algebra Competition (NTAC) at the level of algebra II. High school students led by their teachers are eligible to participate. In addition to individual awards, team awards will be given to the top three teams. A team score is determined by the sum of the top four scores of each team. At the end of AIM, competition awards and door prizes will be presented. Each of the top three teams will receive a plaque. Winners will receive a certificate, a copy of How to Bake π , and one of the following prizes.

- First Place: A TI-84, a scholarship of \$1,000
- Second Place: A scholarship of \$800
- Third, Fourth, Fifth Place: A scholarship of \$500
- 10 Honorable mentions

(To receive the scholarship, a student must attend Texas A&M University Commerce as a fulltime math major.)

To help us prepare sufficient food and parking permits, please RSVP by Monday, February 15, 2016. Contact Dr. Tingxiu Wang (tingxiu.wang@tamuc.edu, or 903-886-5958) for questions.

Where:	Sam Rayburn Student Center Texas A&M University Commerce Commerce, TX 75429
8:30am - 9:00am:	Registration
9:00am - 10:00am:	Northeast Texas Algebra Competition, breakout sessions, 3D-Printing, planetarium, Campus tour
10:00am – 11:10am:	Keynote: How to Bake π
11:10am- 2:15pm:	Lunch, breakout session, 3D-printing, planetarium show, campus tour
2:15pm – 2:45pm:	Competition awards and door prizes (graphing calculators and other gifts) (winners need to be present for door prizes)



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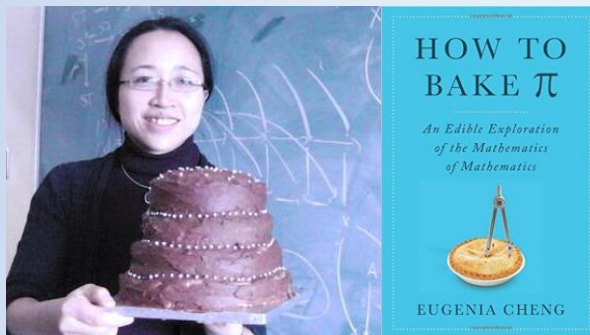
DESCRIPTION OF ACTIVITIES

NORTHEAST TEXAS ALGEBRA COMPETITION (NTAC), 9:00 AM – 10:00 AM

The Northeast Texas Algebra Competition (NTAC) is at the level of algebra II. Each school can have up to 10 students participating in NTAC with two alternates. The alternates may participate if there are extra clickers available. There will be 60 questions and students will have 20 seconds for each question. No pencils, paper or calculators are allowed during the competition. A student will work these questions in his/her head and submit answers with a “clicker.”

Keynote: How to Bake π , 10:00 AM -- 11:00 AM

Dr. Eugenia Cheng will present mathematics as a way of thinking, and not just about numbers. She will use a variety of unexpectedly connected examples including music, juggling and baking, as in the title of her book, *How to Bake π* . Her aim is to show that math can be made fun and intriguing for students of all ages, by means of hand-on activities and examples that everyone can relate to, and funny stories. Dr. Cheng will present surprisingly high level mathematics including some advanced abstract algebra usually only seen by math majors, yet show how to make it accessible even to children. She will also show ways of exploding the myth that math is just about numbers, or all about getting the right answer. There will be a distinct emphasis on edible examples.



Dr. Eugenia Cheng was awarded her PhD in Pure Mathematics at the University of Cambridge, UK, and has been on the faculties of the University of Cambridge, University of Chicago and the University of Nice, France. She is tenured at the University of Sheffield in the UK and is currently Scientist In Residence at the School of the Art Institute of Chicago. Her book "*How to Bake π : An Edible Explanation of the Mathematics of Mathematics*" was published by Basic Books in May 2016 to widespread acclaim from the New York Times, National Geographic, NPR's Science Friday, and the Mathematical Association of America, to name just a few sources, and translated into six languages. She was interviewed on radio and television across the world and was invited to give public lectures at venues such as the Illinois Science Festival, the Smithsonian, and the Science Gallery in Dublin. She appeared on the Late Show with Stephen Colbert in the fall and was nominated as one of the Women of the Year of 2015. Eugenia was an early pioneer of Math on YouTube, beginning in 2007, and her videos have been viewed around a million times to date. She is also a concert pianist.



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The following activities will be held at the same time for 50 minutes and then repeated.

Activity I: Cooking up Magical Mysteries of Math by Adam Bowden and Rebecca Steward

Description: Is it just magic or can math unravel the mystery? Through math the mystery of what seems to be magic will be understood and explained

Activity II: Making Functions with Candies by Ms. Lymeda Singleton

Description: What do M&Ms, Skittles, and Tootsie Roll Pops have to do with functions? That's what this session is all about.

Activity III: Modern Applications of Mathematics by Dr. KaSai Un

Description: This presentation will discuss some of the modern applications in mathematics. Students will have a chance to solve basic cryptography problems during the presentation. Resources for students who want to pursue a major in mathematics in college will also be shared.

Activity IV: Cooking up Questions, facilitated by faculty and graduate students

Description: Are you interested in a college major in Science, Technology, Engineering, or Math (STEM)? If so, this session is for you! Upper-classmen, graduate students, and professors will discuss the math programs with you. Bring questions about college, majors, and particularly the STEM fields and our people will visit with you. Small presentations from various areas of STEM will be available, including some "points of interest".

Activity V: 3D-Printing by Perry Moler

Description: In a computer lab, students will be given a quick instruction about 3D-printing, then select a graph to print.

Activity VI: Campus Tour

Description: Touring the campus of Texas A&M University-Commerce can take hours. However, during this 50-minute tour, students will be guided through the central part of the campus and visit the departments of Biology, Chemistry, Engineering and Technology, and Physics, including the labs.

Activity VII: Planetarium Show, Astronaut

Description: What does it take to become an astronaut? Join us as we experience a rocket launch from inside the human body. Explore the amazing worlds of inner and outer space, from floating around the International Space Station to maneuvering through microscopic regions of the human body. Discover the perils that lurk in space as we subject our test astronaut, Chad, to everything space has to offer.