

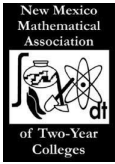
34th Annual NMMATYC Conference

A Tribute to Ramanujan



April 5th-6th, 2024
at
El Paso Community College





34th Annual NMMATYC Conference

April 5th-6th, 2024

FRIDAY APRIL 5TH, 2024

CONTINENTAL BREAKFAST, REGISTRATION, AND WELCOME

Foyer 8:00AM – 8:55AM

BREAKOUT SESSION 1

9:00AM – 9:50 AM

BREAKOUT SESSION 2

10:00AM – 10:50 AM

BREAKOUT SESSION 3

11:00AM – 11:50 AM

LUNCH

12:00PM – 1:00 PM (Foyer)

KEYNOTE SPEAKER: Dr. Larry Lesser

“Formula for a Hit: Using Song to Teach Math and Statistics!”

BREAKOUT SESSION 4

1:05PM – 1:55 PM

BREAKOUT SESSION 5 – SPECIAL GUEST SPEAKER

Dr. Ken Ono via Zoom

2:00PM – 2:50 PM (Foyer)

BREAKOUT SESSION 6

3:00PM – 3:50 PM

BREAKOUT SESSION 7

4:00PM – 4:50 PM or

4:00PM – 4:20 PM

TeXMeX MUSIC FEST

5:00PM – 6:00 PM

DINNER, BANQUET, & AWARDS CEREMONY

6:00PM – 8:00PM (Foyer)

KEYNOTE SPEAKER: Dr. James Tanton

“THE BEE NUMBERS: Some Surprises!”

BREAKOUT SESSIONS

SESSION ONE • 9:00AM – 9:50AM

ROOM

B445 [Soliman, George](#) – **“Math is Magical! Check Out Some Mathemagics!”**

You're invited to a mathemagics show! Come check out the 27 and 25 card tricks, both more mathematically intensive than the familiar 21-card trick. Special appearances by Euler, Fibonacci, and Pascal! Plus more tricks revealing some beautiful mathematics! Tricks will be revealed, unlike traditional magic. Amaze your students and even yourselves!

B555 [Isassi, Alberto](#) – **“Gardening/Landscaping & Mathematics”**

Many people turned to gardening and landscaping during the COVID-19 virus pandemic. Gardening has many health benefits such as reducing stress, improve self-esteem, combating dementia, and many other benefits. I will share some projects I have done to motivate students and faculty to use gardening and landscaping projects to deal with stress. I will show before and after pictures of transformations on yards, patios, and offices while relating it to mathematics and as a source of motivation to never quite what you start. transformations on yards, patios, and offices while relating it to mathematics and as a source of motivation to never quite what you start.

SESSION TWO • 10:00AM – 10:50AM

ROOM

B445 [Kosheleva, Olga & Valles, Estella](#) – **“Come Learn about STEAM: How people learn from building modular origami activity cubes to enhance learning about mathematics/science”**

This hands-on activity session will lead to whole group discussion circumventing art, math/mathematical concepts and 'how-to' procedures surrounding the activity on how to make learning about science fun. Originally presented at the Annual Meeting of National Council of Teachers of Mathematics to one of our speakers, this popular in-class activity is used in many high schools and community colleges across the United States. Come join the fun!!

B555 [Akhtar, Muhammad](#) – **“Technology Tool for Effective Online Teaching Practices”**

Learn how to record a 5-minute free video using Loom for explaining assignment directions, recording micro-lectures with PowerPoint giving the students feedback on exams.

SESSION THREE • 11:00AM – 11:50AM

ROOM

B445 [Solano, Alejandro & Chen, Fan](#) – **“Understanding El Paso County's Interconnected Systems Using Graph Theory”**

Embarking on an innovative exploration of El Paso County's interconnected systems, this project utilizes graph theory to understand and analyze the impacts of adversarial events, such as cyberattacks and infrastructure failures, on critical systems. Using El Paso Electric as a focal point, we scrutinize its role as a critical system and craft standards for solution creation. Based on the analysis, we will investigate the cascading effects of these events and develop resilience strategies. Our focus on equipping the general population to devise tailored solutions ensures proactive problem-solving, contributing to the county's future resilience. This interdisciplinary approach fosters critical thinking and solution development while

addressing broader concerns of the general population regarding the county's system dynamics and adaptation to adversity

B555 Fajardo Allison & Delgado, Adrian - "Newton's Law of Cooling – A student project."

In my differential equation's class, I implemented a project that allows the students to mathematically model Newton's Law of Cooling. The session will talk about the implementation and one of my students will present their findings as they have additionally taken the honor's component of this course.

LUNCH - KEYNOTE SPEAKER

Foyer • 12:00PM – 1:00PM

Dr. Larry Lesser - "Formula for a Hit: Using Song to Teach Math and Statistics!"

ABSTRACT: A surprisingly wide variety of math/statistics topics can be motivated or enhanced with connections to music and songs. While this is fun and community-building, there is also research that suggests benefits for student engagement and learning. This is no one-way lecture – it's also a math song sing-along you can join as a Choral-Larry! Resources at <https://larrylesser.com/mathemusician/>.

BIO: Professor Lesser (hey, that rhymes!) is a UTEP statistics/mathematics education researcher who has won state and national awards (e.g., the 2021 Waller Award from ASA). He's also an award-winning songwriter (e.g., New Mexico Music Awards) and his STEM songs have won national awards (e.g., National Museum of Mathematics' "Pi Day of the Century" contest), helped land NSF grants (e.g., <https://www.causeweb.org/smiles/>), and yielded plenary performances at regional and national STEM conferences (e.g., MAA MathFest, USCOTS, NCTM, etc.).

SESSION FOUR • 1:05PM – 1:55PM

ROOM

B321 Holguin, Raul – "Importance of Visuals in Mathematics"

Most of the time we as teachers just teach Techniques or processes. Visuals are important when teaching hard topics in Mathematics. Some examples of this presentation will include FOIL and Distributive Property by Algebra Tiles, solving quadratics by completing the square, Volumes by Solids of Revolution (Disks Washers/Shells) in Calculus and cross-sectional. volumes.

B322 Barrientos, Patricia & Valles, Estella – "Ramanujan, The Mysticism & Mathematics of a Genius"

Come learn about Ramanujan, The Mysticism & Mathematics of a Genius. We will discuss the dynamics involved in the brilliance of who is probably considered the most advanced mathematician in the history of humanity. To be sure, an individual whose mathematical skills could not be deciphered until the 21st Century, and we are still working on it...but did u know about the mystical properties of his conscious awareness as it is related to Hinduism?? Sounds interesting, come find out!!

SPECIAL GUEST SPEAKER

SESSION FIVE • 2:00PM – 2:50PM

ROOM

Foyer **Ono, Ken – "Why does Ramanujan, "The Man Who Knew Infinity", matter?"**

(via Zoom) This lecture is about Srinivasa Ramanujan, "The Man Who Knew Infinity." Ramanujan was a self-trained two-time college dropout who left behind 3 notebooks with equation that mathematicians are still trying to figure out today. He claimed that his ideas come to him as visions from an Indian goddess. This lecture is about the many reasons why Ramanujan matters today. The answers offer commentaries on mentorship, pipeline issues in the sciences, and of course scientific ideas that matter. The speaker was an Associate Producer of the film, "The Man Who Knew Infinity" (starring Dev Patel and Jeremy Irons) about Ramanujan. He will share several clips from the film along the way.

SESSION SIX • 3:00PM – 3:50PM

ROOM

- B321 **Soliman, George – A Finite Look at Some Works of Ramanujan, “The Man Who Knew Infinity.”**
The 2015 film “The Man Who Knew Infinity” mainly discusses Srinivasa Ramanujan’s work on partitions. This presentation will dive into some mathematical details that the movie missed, along with Ramanujan’s work on Fermat’s Last Theorem from a page of his lost notebook, primes, and a fun puzzle that you may try.
- B322 **Camarillo, Melinda – “Using Respondus Through My Math Lab for Online Testing”**
I’d like to share with you all how I administer my online exams through My Math Lab. Since I started incorporating Respondus in My Math Lab, I’ve noticed that student online grades seem to match more with student grades in face-to-face classes. It’s very easy to do, and I will walk you all through it and show you what works best for me.

SESSION SEVEN • 4:00PM – 4:50PM

ROOM

- B321 **Peeples, Joanne – “Did John Napier have an ‘Ah Ha Moment’ When He ‘Invented’ Logarithms?”**
We’ll never know for sure but, I’d like to look at what led up to this idea, and why it was so important. Florian Cajori, a Swiss-American math historian (1859 - 1930) wrote that the three computational inventions: Indo-Arabic decimal numerals, decimal fractions, and logarithms in the early 17th century triggered the Scientific Revolution. I’ll look at Napier’s role in discovering logarithms.

or

SESSION SEVEN • 4:00PM – 4:20PM

- B322 **Knaust, Helmut– “Wu’s Principles - Teaching a Capstone Course for Future High School Teachers”**
For more than a decade UTEP has required future high school mathematics teachers to take the senior course “Fundamental Mathematics From An Advanced Standpoint.” This course is intended to help preservice secondary mathematics teachers make connections between their undergraduate mathematics education and the mathematics that they will teach, and facilitate their transition from being math consumers to math teachers.

TeXMeX MUSIC FEST

Foyer • 5:00PM – 6:00PM

Come join us in the foyer area for live music.

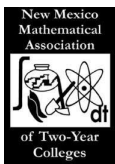
DINNER, BANQUET & AWARDS

Foyer • 6:00PM – 8:00PM

Tanton, James - “THE BEE NUMBERS: Some Surprises!”

The Fibonacci numbers 1, 1, 2, 3, 5, 8, 13, ... (aka the Bee numbers or the Hemachandra numbers) have been studied and probed and generalized and analyzed in most every possible way for centuries. Let’s probe and prod some more!

Allow me to surprise you with some new appearances of these famous numbers--and invite you to discover some more of your own!



34th Annual NMMATYC Conference

April 5th-6th, 2024

SATURDAY APRIL 6TH, 2024

COFFEE & PASTERIES

8:30AM – 8:55 AM

BREAKOUT SESSION 8

9:00AM – 9:50 AM

BREAKOUT SESSION 9

10:00AM – 10:50AM

BREAKOUT SESSION 10

11:00AM – 11:50AM

SESSION EIGHT • 9:00AM – 9:50AM

Room

B321 Flores, Benjamin & Knaust, Helmut – Undergraduate Research Experiences at Community Colleges: Models for Engagement, Innovation, and Reward

Undergraduate research is a high-impact practice with the potential to engage student participants in unscripted and creative problem-solving activities under the guidance of motivated faculty. Students who participated in undergraduate research report gains in understanding, affinity to their discipline, and professional skills. Likewise, faculty who serve as mentors of undergraduate researchers report an increase in satisfaction making a difference in their students' success and a renewed sense of commitment in their careers. In this presentation, we will discuss how undergraduate research is implemented at community colleges in a way that is consistent with the institutional missions that underscore affordable, quality education for all students and emphasize teaching and service roles for faculty. We will also ways to sustain and scale up undergraduate research from the perspectives of faculty, curricular programs, and institutions. Finally, we will discuss resources available to faculty who are interested in becoming better mentors of undergraduate researchers.

B322 Valles, Estella – "Patriarchal Hysteria Circumventing Hypatia," The Historical Tensions Between Gender & Mathematics

Come learn about Hypatia and the hysterical, historical, patriarchal aspects of Science, Technology, Engineering and Mathematics (STEM) fields, as they have existed historically, and even today. Consequently, very few women have been allowed to contribute to math/science, as well as to the further development of humanity, in spite of their ability to do so. We will share relevant data related to this tension..., arguing that "The emancipation of women, the achievement of full equality between the sexes is essential to human progress and the transformation of society..."

SESSION NINE • 10:00AM – 10:50AM

Room

B321 Akhtar, Muhammad – **Setting Up Your LMS Frequently Asked Questions (FAQ)**

With each course you teach, there may be general questions or topics that are of particular concern to students. In such cases, it is helpful to collect these questions and create a frequently Asked Questions (FAQ) document that you post for the class. This will save you time as you can simply post the document to the FAQ section each time you teach the course.

B322 Aguirre, Edith & Pasillas, Maria Alex & Hines, Cecilia– **“ACUE-EPCC Math Teaching Techniques”**

El Paso Community College (EPCC) partnered with the Association of College and University Educators (ACUE) to provide professional development on *Effective Teaching Practices* to full-time and part-time faculty cohorts starting Fall 2022. This second faculty cohort has covered two courses on *Creating an Inclusive and Supportive Learning Environment* and *Promoting Active Learning*. Three mathematics instructors from the Mission del Paso campus will present their research-based teaching techniques, from those two courses, that were implemented in their math classes. In this workshop, our goal is to actively engage you in providing an inclusive and supporting learning environment about our professional development experiences.

SESSION TEN • 11:00AM – 11:50AM

Room

B321 Tanton, James – **“An Informal Discussion on Thorny Topics to Teach”**

We all have sections of topics that we feel are tricky to teach (e.g. Why do we care about logarithms today? Who cared about logarithms in the first place?) or thorny questions that are difficult to answer on the spot (e.g. Why, like truly why, is negative times negative positive? Why exactly is $0!$ equal to 1 ?). So, as friends, let's gather a list of some curriculum tidbits that we feel are tricky to answer and then brainstorm together on how to attend to these issues in ways that are fulfilling and satisfying to both our students and to ourselves. This session shall be informal and free-form.

B322 Soliman, George – **“Fibonacci Numbers are Fascinating, and That's No Fib!”**

The Fibonacci Sequence has many interesting patterns and applications, both mathematical and in nature. Come and see where Fibonacci Numbers hide, and their connection to the golden ratio and even Pascal's Triangle. Get students to actually get excited about math when introducing these fascinating numbers!

NMMATYC BOARD MEETING (TENTATIVE) • 12:00PM – 1:00PM

Room

B322 P. Barrientos – **“NMMATYC Board & Business Meeting”**

The NMMATYC Board and business meeting will take place to conclude the conference.

Thank you for your attendance and participation!
See you at the next conference to be hosted at
Dona Ana Community College in
Las Cruces, NM!

ASC Building B Map

