MAA Southwestern Section Spring Conference
"The Art of Mathematics"

Hosted by the Western New Mexico University (WNMU)
March 26, 2021

Michael Metcalf, Professor of Sculpture, WNMU

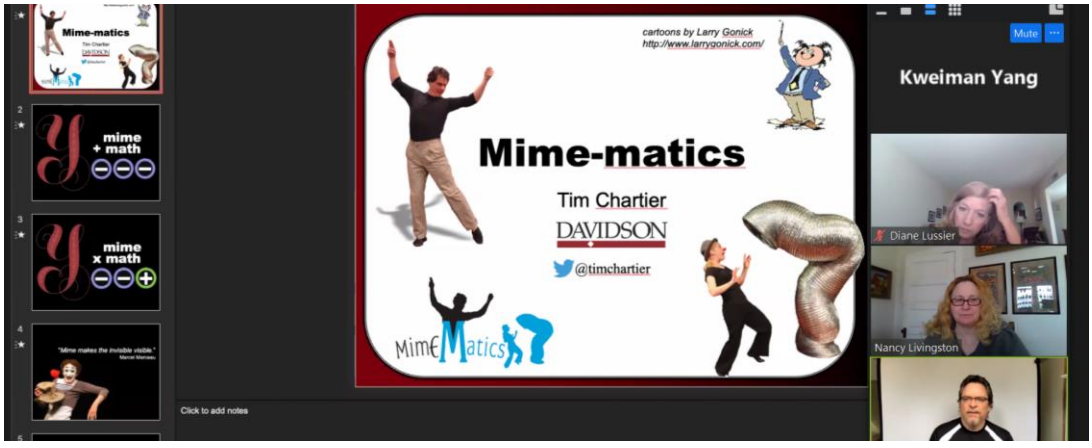
Virtual Program (Mountain Daylight Time)

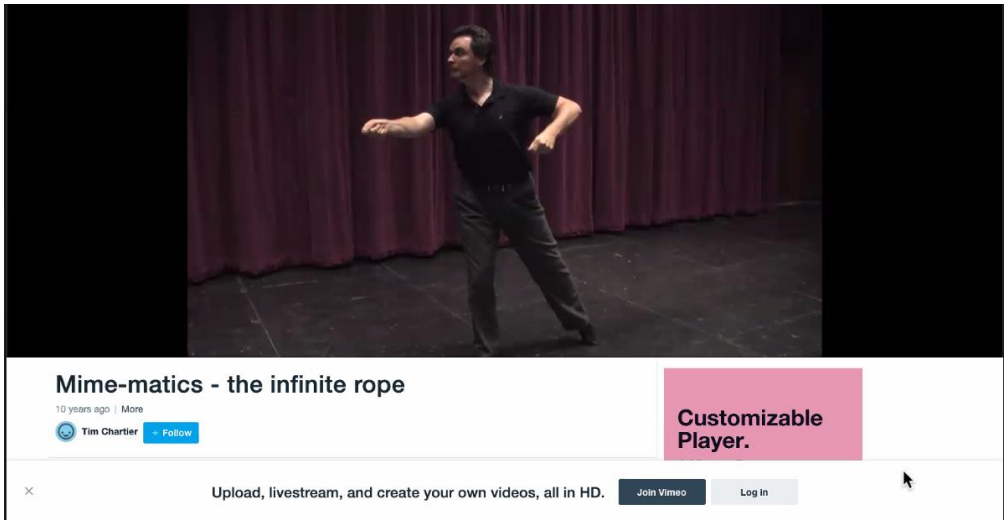
9:00 am to 9:15 am	Introduction President Joseph Shepard, Western New Mexico University.
9:15 am to 10:30 am	Invited Section Speaker Tim Chartier, Professor of Mathematics, Davidson College and Chair, MAA Congress

Title: Mime-matics

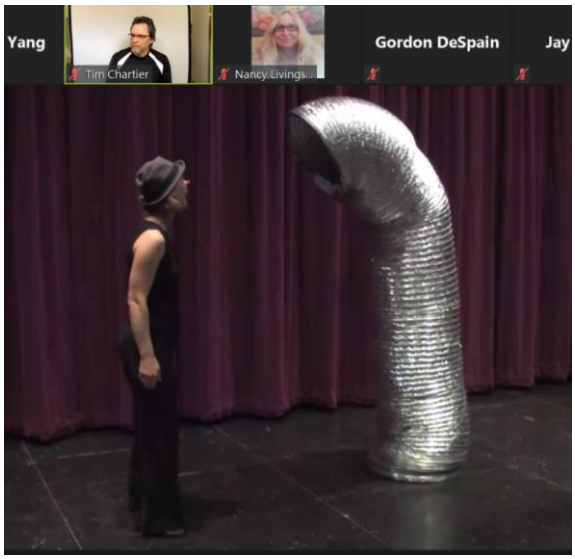
Abstract: In Mime-matics, Tim Chartier explores mathematical ideas through the art of mime. Whether creating an illusion of an invisible wall, wearing a mask covered with geometric shapes or pulling on an invisible rope, Dr. Chartier delvesinto mathematical concepts such as estimation, tiling, and infinity. Through Mime-matics, audiences encounter math through the entertaining style of a performing artist who have performed at local, national and international settings.

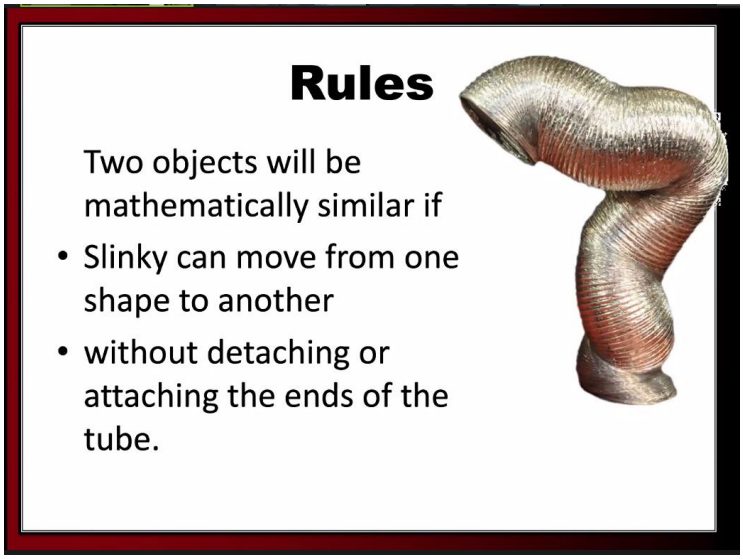
Video: Welcome by President Shepard and Mime-matics by Tim Chartier
https://mediasite.wnmu.edu/Mediasite6/Play/ce9c59feef544affa5826327fc3cf41e1d



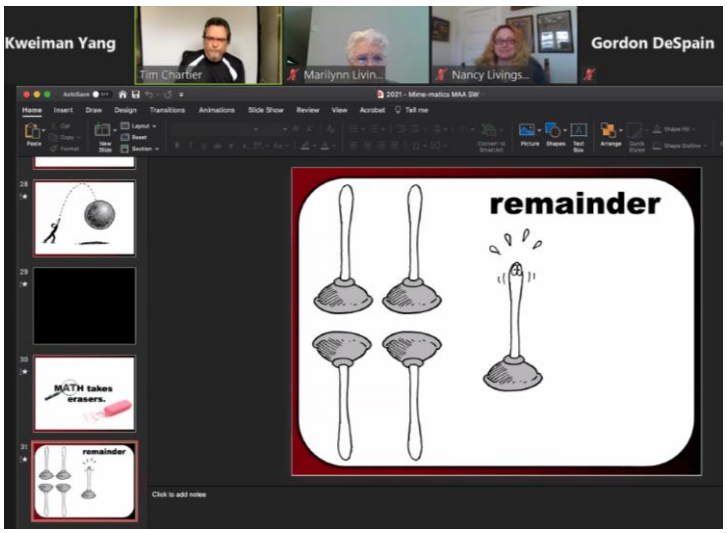


Mime-matics – the infinite rope at https://www.youtube.com/watch?v=--nbhhuabHo





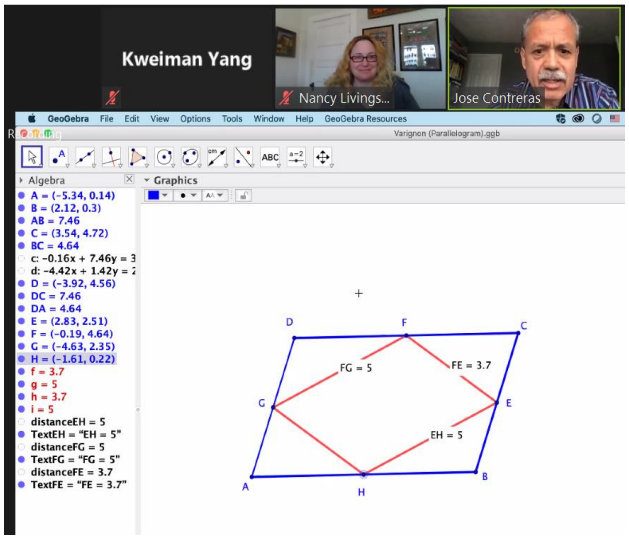
Mimematics – The Tube at https://www.youtube.com/watch?v=Phb8wciVBdU

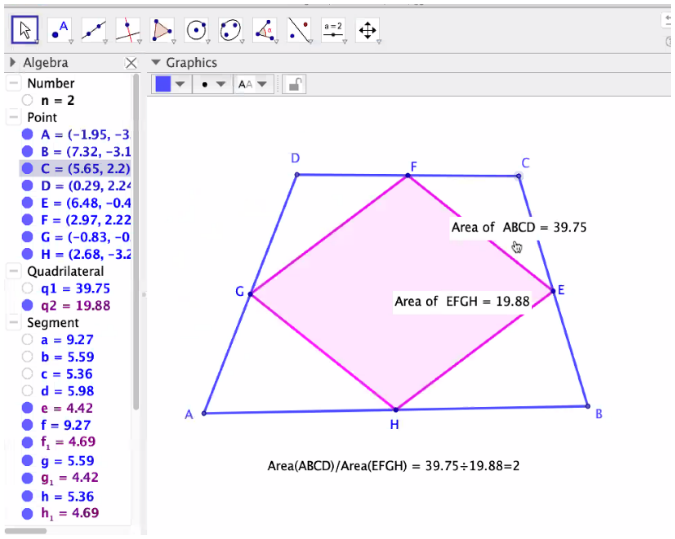


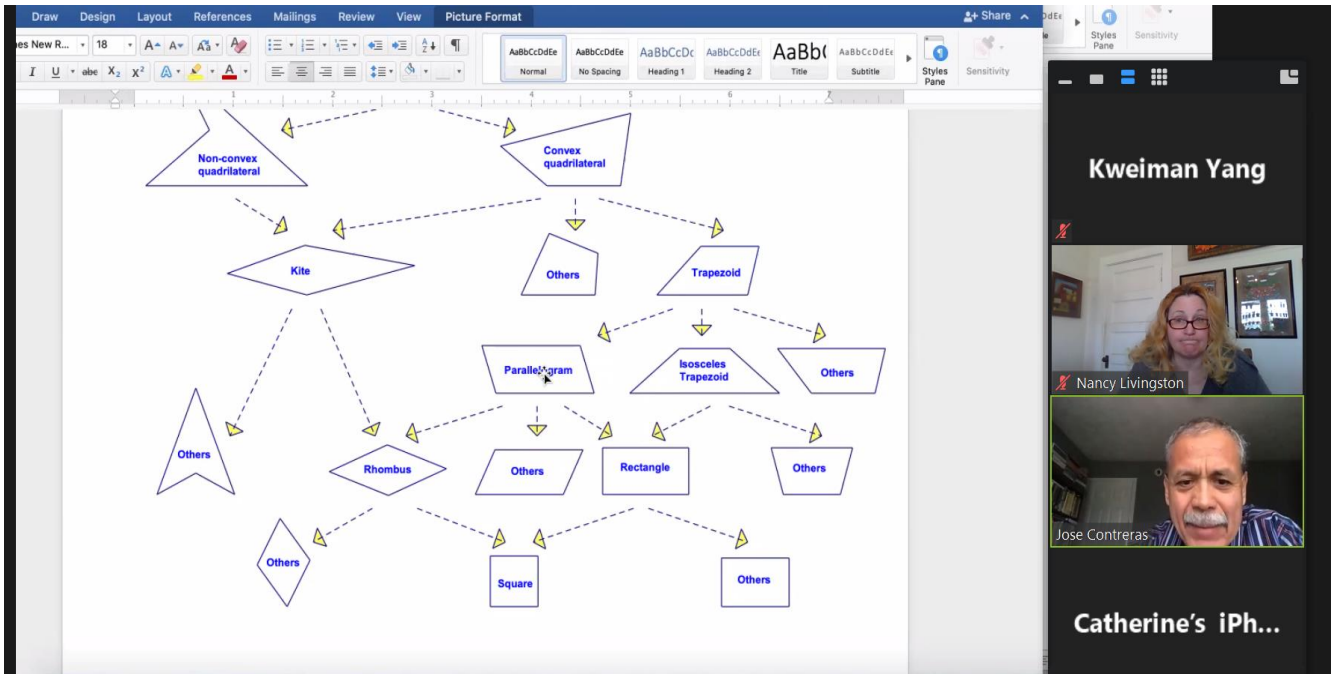
10:30 am to 10:45 am Break

10:45 am to Noon Invited Speaker
José N. Contreras, Ball State University

Title: Learning to Pose and Solve Problems within Interactive Learning Environments.
Abstract: I will illustrate how my students and I have used a problem-posing framework and GeoGebra to pose and solve Varignon problems using four main strategies: Specializing, generalizing, extending, and reversing. To enrich the students' experience, I start the investigation with the following version of the Varignon's problem: Let E, F, G, and H be the midpoints of the consecutive sides of a parallelogram ABCD. What type of quadrilateral is EFGH?
Videos: https://mediasite.wnmu.edu/Mediasite6/Play/535fa362a15e444485748bf56be923531d
https://mediasite.wnmu.edu/Mediasite6/Play/b93ac7c8175b49e39a8e3a17e112ea3e1d



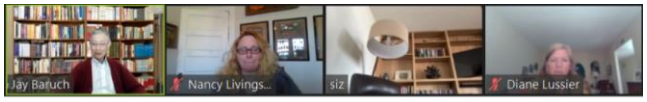


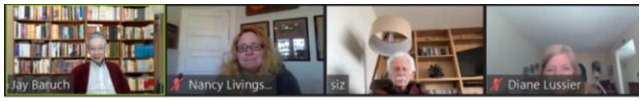


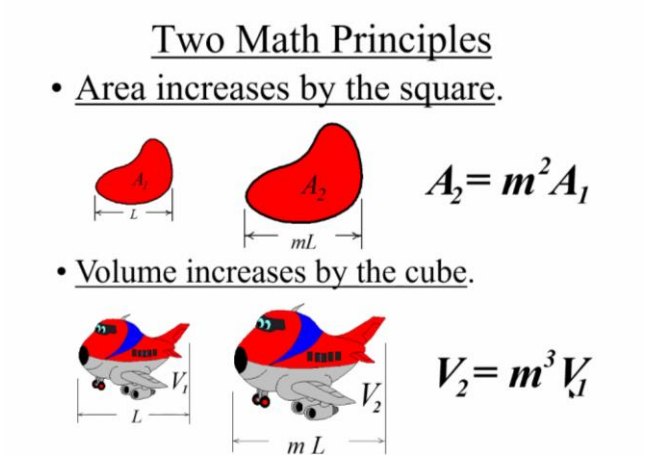
Noon – 1:00 pm Lunch Break

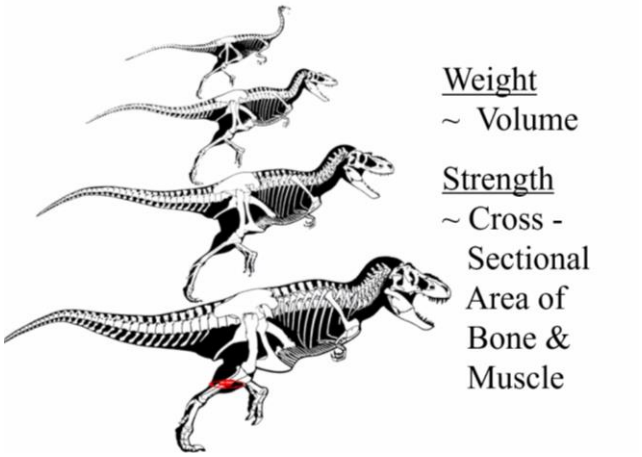
1:00 pm – 2:15 pm Invited Distinguished Mathematician
Chung-Wu Ho, Emeritus Professor, Southern Illinois University and Evergreen Valley College.

Title: Think Mathematically; Life is More Mathematical than You Think.
Abstract: Imagine that if all humans shrink to the size of little ants. We would suddenly find considerable open space around us: the whole city could be in a parking lot, we would not require as much energy, produce as much waste, and environmental problems would all disappear! But can we still enjoy our current lifestyle in our new world? Why not? All we need is to live in small houses, read small books, and drive small cars. We will show that these are impossible. All creatures large or small are subject to a few simple mathematical limitations. How fast we can run, how far we can we walk, what we can see, what we can hear all depend on the size we are in. The world for ants will be drastically different from that to a human. Our life would never be the same if we are the size of little ants.
Video: https://mediasite.wnmu.edu/Mediasite6/Play/10dcdcc235604bddac90bea64afdb8021d





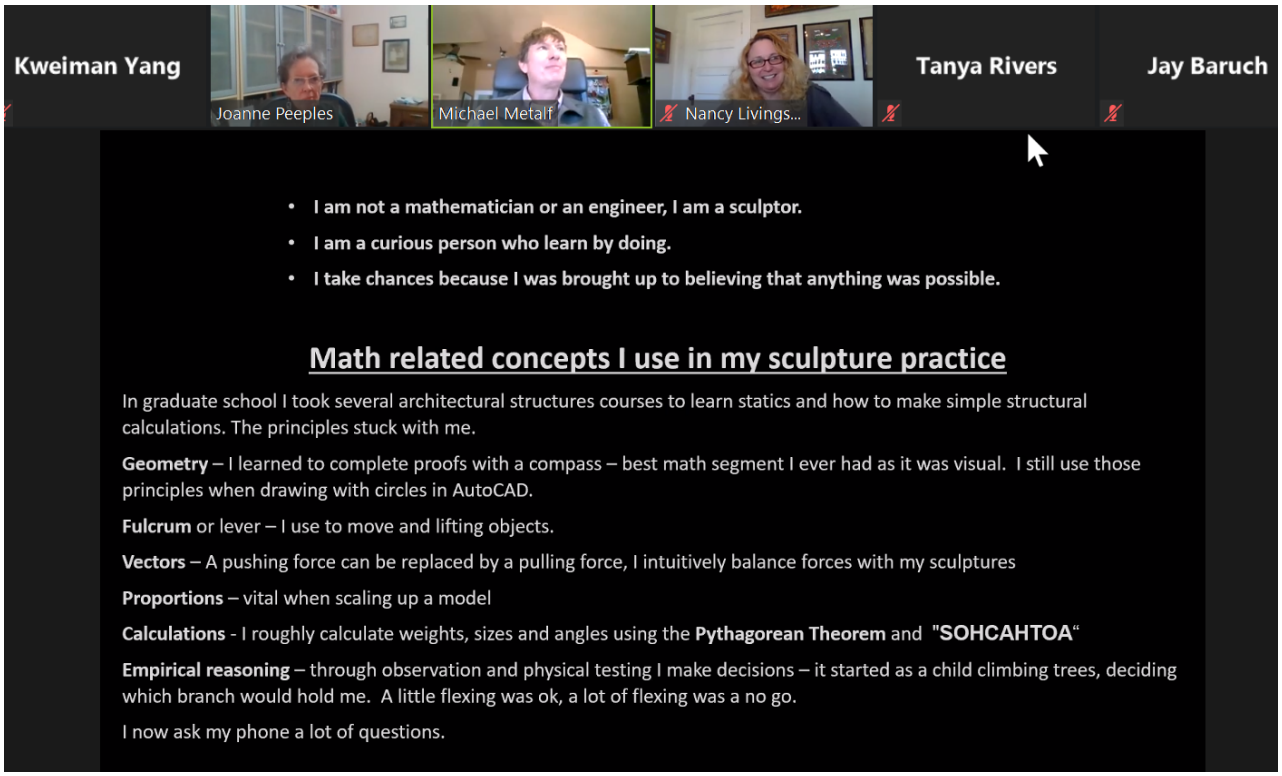


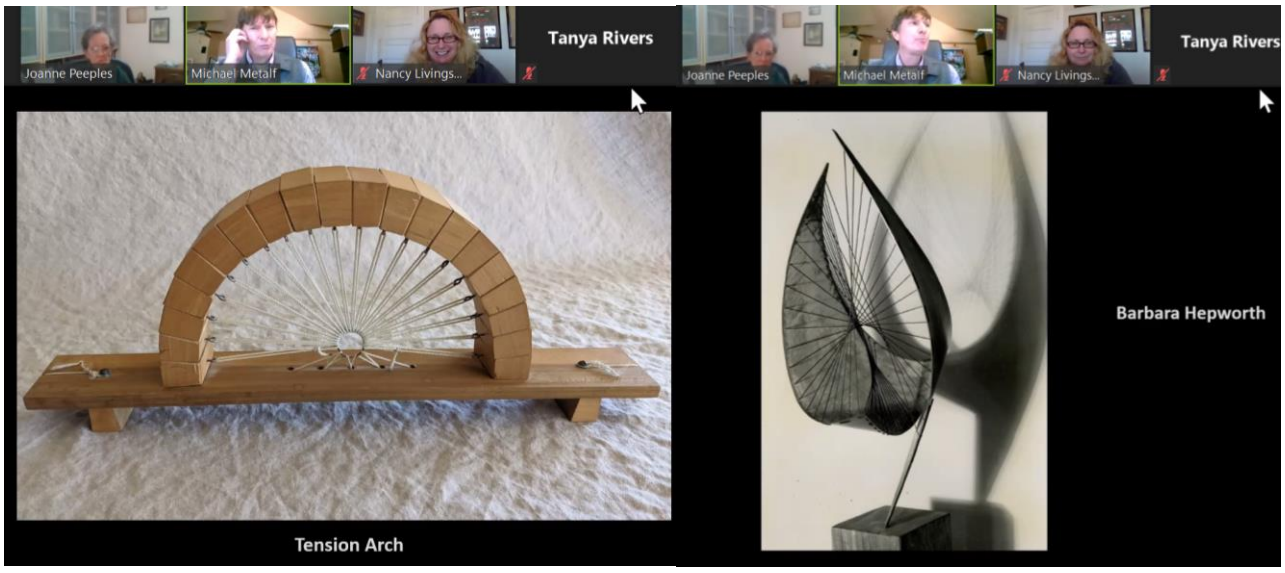


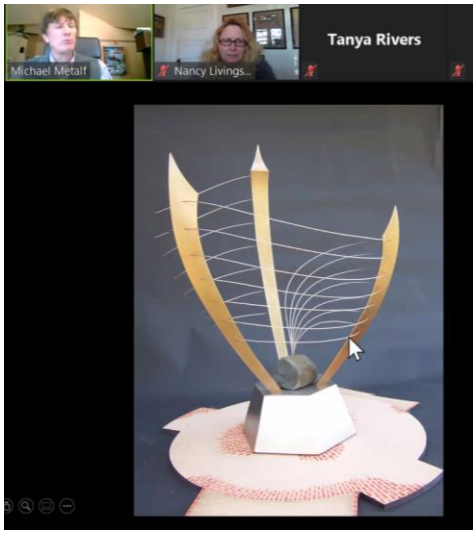
2:15 pm – 2:30 pm Break

2:30 pm – 3:15 pm Invited Distinguished Artist
Michael Metcalf, Professor of Sculpture, Western New Mexico University

Title: Mathematics and Engineering in Sculpture
Abstract: Learn about how mathematics and problem-solving skills are incorporated in the creative process of sculpturing. This process begins with developing an initial idea using the artist's aesthetics and then problem solving to refine the ideas into a physical object. The incorporation of Math and Engineering into the sculpture process is discussed using exemplars of the artist's own creations.
Video: https://mediasite.wnmu.edu/Mediasite6/Play/98274b575669471f99d7a87b275cfbd61d



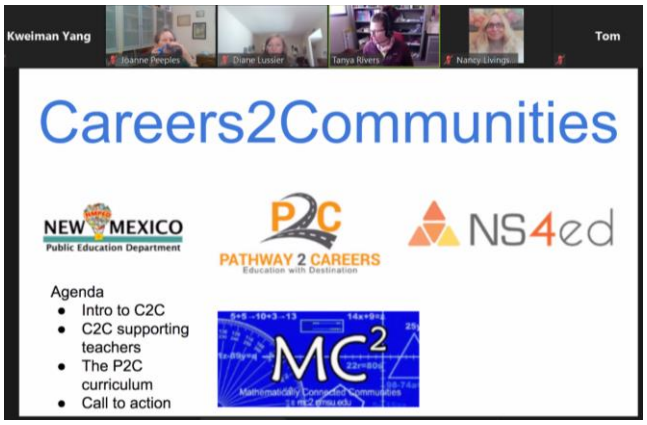


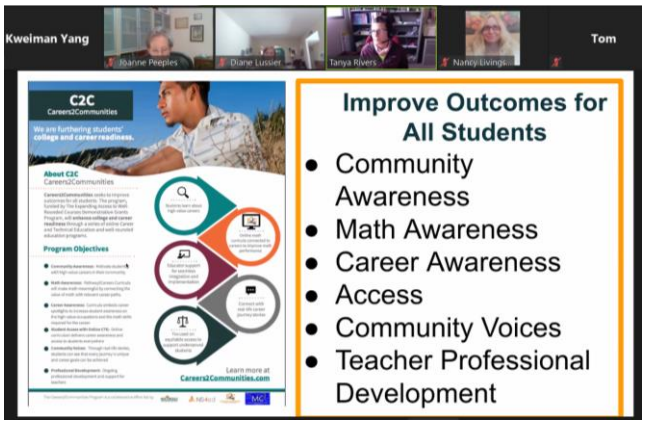


3:15 pm – 3:30 pm Break

3:30 pm – 4:00 pm Careers2communities Project
Tanya Rivers, Assistant Professor of Mathematics, Western New Mexico University

Video: https://mediasite.wnmu.edu/Mediasite6/Play/8a48dabe9b1f4586b570b26395ddf0171d





4:00 pm – 5:00 pm Business Meetings