FRI-S1 / Sheraton 1, Level 4 / 10:30 AM–12:15 PM

Emerging Technology Panel

Lila Roberts, Clayton State University; Scott McDaniel, Middle Tennessee State University; Maria Andersen, Muskegon Community College; and John Erhke, Abilene Christian University

Almost daily we hear of a new electronic gadget, software, social-networking, or Internet application. More and more of these creations are being used in innovative ways in the mathematics classroom. The Emerging Technology Panel consists of experts who are on the cutting edge of integration of non-traditional technologies into mathematics teaching and learning. The panelists will share their expertise and experiences with new and emerging technologies, and engage the audience in a lively discussion of the potential (or not) these technologies have to make a positive impact on how students learn mathematics.

TRACK: EMERGING TECHNOLOGIES

FRI-S2 / Sheraton 2, Level 4 / 10:30 AM–11:15 AM

The Intersection of Traditional and Online Strategies: Improving Student Success in Core Mathematics

Christy Jackson, Melissa Hardeman, and Miriam Hundley, University of Arkansas–Little Rock

Forcing students to do homework? Holding students accountable for learning outside of class? Yes! Grading hundreds of homework assignments? No! We will discuss our experiences in instituting a mandatory online homework component into our live core courses to improve student achievement, retention, and general disposition toward math.

TRACK: TEACHING MATH ONLINE

FRI-S3 / Chicago 10, Level 4 / 10:30 AM–11:15 AM

Uniform Assessment of Precalculus Skills Using WebAssign

Lisa Townsley, University of Georgia

The University of Georgia uses WebAssign to ensure uniform assessment of precalculus skills across some 30 sections per semester. In this talk, I will demo the structure of the precalculus course, the various types of online assessment, and discuss the work involved for both instructors and the course designer.

TRACK: BEFORE CALCULUS

FRI-S4 / Sheraton 3, Level 4 / 10:30 AM–11:15 AM

Best Practices in a Changing Developmental Mathematics Classroom

Elayn Martin-Gay, University of New Orleans

How can we anticipate and prepare for possible changes in developmental mathematics classrooms, given the current economy? Many classroom techniques and strategies will be discussed that will not only be easy to implement, but will have a positive effect on students and instructors.

TRACK: DEVELOPMENTAL MATH

FRI-S5 / Ohio, Level 2 / 10:30 AM–11:15 AM

Three Ladders-Walls Problems and Their Extensions

Wei-Chi Yang, Radford University

The one-ladder-wall problem is studied in most calculus textbooks; two-ladders-walls problems are often explored and solved. Extending the ladders-walls problems to three ladders and three walls was first experimented with the help of a dynamic geometry system, and it was surprising to learn that the solutions exist near the boundary after extensive computations with help of a CAS.

TRACK: CALCULUS

FRI-S6 / Mississippi, Level 2 / 10:30 AM–11:15 AM

Polynomial Interpolation and Approximation on the TI-89

Dennis Pence, Western Michigan University

Numerical analysis courses always have a unit on polynomial interpolation and approximation, although much of this topic is anticipated in precalculus, calculus, and linear algebra courses. We will explore the features of the TI-89 that make it an excellent environment to explore polynomials at all of these levels.

TRACK: BEYOND CALCULUS

FRI-S7 / Arkansas, Level 2 / 10:30 AM–11:15 AM

How Mathematics Transforms the World

Gary Rockswold, Minnesota State University–Mankato

A *Wall Street Journal* article recently ranked mathematicians as having the best occupation. But is this only the beginning of a new role and even greater power that mathematics will assume in the future? This multimedia presentation explains how mathematics has transformed our world in the past and will continue to do so in the future.

TRACK: PEDAGOGY, RESEARCH & ASSESSMENT

FRI-S8 / Colorado, Level 2 / 10:30 AM–11:15 AM

The Ferris Wheel Goes Around

Kathleen Mittag, University of Texas–San Antonio

This activity takes the Ferris wheel problem out of the abstract and has students explore a hands-on model of a sinusoidal scenario. Students will gather data, create their own sinusoidal function, and then verify their results with the calculator. This activity uses an inexpensive hamster wheel that makes it possible for small groups of students to experience the activity.

TRACK: TEACHER PREP

FRI-S10 / Sheraton 2, Level 4 / 11:30 AM–12:15 PM

Video Wrappers: Moving It Out of the Classroom with PreLabs

Brenda Gunderson, University of Michigan

Class time could be better utilized if students arrived with 1) prior exposure to the core ideas, and 2) a basic familiarity with the software package to be used in the class. To achieve these objectives, PreLabs have been integrated into an introductory statistics course. A simple screen capture software (Jing) was used to create instructor-guided video wrappers. These videos and a very short corresponding assignment together form a PreLab and are made available to students to access at appropriate times in the course. In this session we will share the success story of how one introductory statistics course integrated these video wrappers into the course and then discuss other possible applications.

TRACK: TEACHING MATH ONLINE

FRI-S11 / Chicago 10, Level 4 / 11:30 AM–12:15 PM

Use GeoGebra in Trigonometry to Create Accurate Sketches, the Unit Circle, Graphs, and More

Jane Gower, Francis Marion University

Learn to use GeoGebra to make scaled drawings for right- and oblique-triangle problems and solve them. Make a unit circle with all the circular definitions. Make trigonometric graphs with sliders to investigate translations of functions. GeoGebra does all that Geometer's Sketchpad does and more.

TRACK: BEFORE CALCULUS