9:00am - 10:30am  A9  ALGEBRA 1, ALGEBRA 2, PRECALCULUS

10:15am - 11:45am  A9  ALGEBRA 1, ALGEBRA 2, PRECALCULUS

11:00am - 12:30pm  A9  ALGEBRA 1, ALGEBRA 2, PRECALCULUS

12:45pm - 2:15pm  A9  ALGEBRA 1, ALGEBRA 2, PRECALCULUS

2:30pm - 4:00pm  A9  ALGEBRA 1, ALGEBRA 2, PRECALCULUS

4:15pm - 5:45pm  A9  ALGEBRA 1, ALGEBRA 2, PRECALCULUS

5:00pm - 6:30pm  A9  ALGEBRA 1, ALGEBRA 2, PRECALCULUS
### Session Details

**Session**: Using Technology and Professional Learning Communities to Increase Student Achievement on High School Assessments

- **90-Minute Lecture/Demonstration**
- **Beginner**
- **Intermediate**
- **Apps, TI-Navigator™**, TI-83 Plus

**Details**

As part of an educational technology grant 6 teachers in Caroline County High Schools became part of a professional learning community to increase student performance in the Algebra I/ Data Analysis year long course and the state assessment. Teachers were given professional development and instruction in developing engaging lessons collaboratively, as well as integrating educational technology (which included SMART Board™ interactive whiteboards, TI graphing calculators and TI Navigator™ systems) into schools that previously had limited use of technology. Experience the struggles and successes faced in this journey. Teachers will share lessons that were developed to be used with the year-long Algebra course, as well as discuss the process of developing a successful professional learning community that centers around pedagogy and technology use.

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**Session**: Proving the Conservation of Energy Law in Middle School

- **90-Minute Hands-On**
- **Intermediate**
- **Apps, TI-Navigator™**, TI-84 Plus Silver Edition

**Details**

This workshop uses the TI-Nspire™ learning handheld. Focus will be on the handheld’s ability to display multiple representations connecting Algebra and Geometry concepts. Participants will see a lot of examples showing how to use all the features of Cabri™ 3D in relation to developing engaging lessons collaboratively, as well as integrating educational technology (which included SMART Board™ interactive whiteboards, TI graphing calculators and TI Navigator™ systems) into schools that previously had limited use of technology. Experience the struggles and successes faced in this journey. Teachers will share lessons that were developed to be used with the year-long Algebra course, as well as discuss the process of developing a successful professional learning community that centers around pedagogy and technology use.

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**Session**: Deconstructing PEMDAS: Exploring the Order of Operations

- **90-Minute Hands-On**
- **Beginner**
- **Intermediate**
- **Apps, TI-Navigator™**, TI-84 Plus Silver Edition

**Details**

This session will address the PEMDAS procedure as a mathematical convention that we must all agree upon. This session will share specific examples and misconceptions presented during a mini-lesson presented by a pre-service teacher in a middle school mathematics content and pedagogy course. The examples were based on erroneous information the pre-service teacher received from a Web site. The TI-84 Plus Silver Edition graphing calculator and TI SmartView™ software will be used to explore these examples.

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**Session**: Developing Algebraic Thinking: Introduction to Algebra

- **90-Minute Lecture/Demonstration**
- **Beginner**
- **Intermediate**
- **Apps, TI-Navigator™**, TI-84 Plus Silver Edition

**Details**

Participants will use the built-in Graphs & Geometry feature of TI-Nspire™ technology to construct a triangle, then measure each angle to discover what the sum of the angles equals. The session will also cover how to use the TI Nspire™ technology’s interactive Grab-and-Move feature to manipulate the triangle in order to discover the relationship between the sum of two interior angles and a remote exterior angle.

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**Session**: Algebra and Geometry: A Matter of Finding the Right Path

- **90-Minute Lecture/Demonstration**
- **Beginner**
- **Intermediate**
- **Apps, TI-Navigator™**, TI-84 Plus Silver Edition

**Details**

Participants will walk through several Connected Math Program 2 (CMP2) lessons enhanced by the TI-Navigator™ system. The session will include activities that educators can use with 7th and 8th grade CMP2 units.

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**Session**: Using TI-84 Plus Silver Edition Graphing Calculator to Analyze and Graph Data

- **90-Minute Hands-On**
- **Beginner**
- **Intermediate**
- **Apps, TI-Navigator™**, TI-84 Plus Silver Edition

**Details**

Participants will use the built-in Graphs & Geometry feature of TI-Nspire™ technology to construct a triangle, then measure each angle to discover what the sum of the angles equals. The session will also cover how to use the TI Nspire™ technology’s interactive Grab-and-Move feature to manipulate the triangle in order to discover the relationship between the sum of two interior angles and a remote exterior angle.

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**Session**: Introducing the TI-Nspire™ System

- **90-Minute Lecture/Demonstration**
- **Beginner**
- **Intermediate**
- **Apps, TI-Navigator™**, TI-84 Plus Silver Edition

**Details**

This hands-on workshop uses the TI-Nspire™ learning handheld. Focus will be on the handheld’s ability to display multiple representations connecting Algebra and Geometry concepts. Participants will see a lot of examples showing how to use all the features of Cabri™ 3D in relation to developing engaging lessons collaboratively, as well as integrating educational technology (which included SMART Board™ interactive whiteboards, TI graphing calculators and TI Navigator™ systems) into schools that previously had limited use of technology. Experience the struggles and successes faced in this journey. Teachers will share lessons that were developed to be used with the year-long Algebra course, as well as discuss the process of developing a successful professional learning community that centers around pedagogy and technology use.

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**Session**: Understanding the Geometry of Area

- **90-Minute Lecture/Demonstration**
- **Beginner**
- **Intermediate**
- **Apps, TI-Navigator™**, TI-84 Plus Silver Edition

**Details**

This session will share specific examples and misconceptions presented during a mini-lesson presented by a pre-service teacher in a middle school mathematics content and pedagogy course. The examples were based on erroneous information the pre-service teacher received from a Web site. The TI-84 Plus Silver Edition graphing calculator and TI SmartView™ software will be used to explore these examples.

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**Session**: Teaching Fractions with the TI-15 Calculator

- **90-Minute Hands-On**
- **Beginner**
- **Intermediate**
- **Apps, TI-Navigator™**, TI-84 Plus Silver Edition

**Details**

Participants will be walked through several Connected Math Program 2 (CMP2) lessons enhanced by the TI-Navigator™ system. The session will include activities that educators can use with 7th and 8th grade CMP2 units.

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**Session**: Using New Technology to Inspire Our Students – An Introduction to TI-Nspire™

- **90-Minute Hands-On**
- **Beginner**
- **Intermediate**
- **Apps, TI-Navigator™**, TI-84 Plus Silver Edition

**Details**

Participants will use the built-in Graphs & Geometry feature of TI-Nspire™ technology to construct a triangle, then measure each angle to discover what the sum of the angles equals. The session will also cover how to use the TI Nspire™ technology’s interactive Grab-and-Move feature to manipulate the triangle in order to discover the relationship between the sum of two interior angles and a remote exterior angle.
Session Details

8:15am - 9:45am

Moreno AB
PRECALCULUS

224 Visual Parametrics for High School Using TI's CBR 2™ Motion Detector and TI-84 Plus Graphing Calculator
90-Minute Hands-On • Beginner, Intermediate, Advanced • CBR™
Constance Smith, University of Louisiana at Monroe, CROSSFETT, AR, USA
This session will demonstrate parametrics visually using TI's CBR 2™ motion detector and TI-84 Plus graphing calculator. Positioning CBR 2™ motion detectors at right angles to each other, participants will collect horizontal and vertical data points for a random motion. These data lists will be used to plot points on the coordinate plane, which will duplicate the pattern of the observed movement.

8:15am - 9:45am

Sanger AB
TRIGONOMETRY, GENERAL MATH, PHYSICS, PRECALCULUS, TRIGONOMETRY

225 Hum a Perfect Sinusoid: Hum into a Microphone and Create a Sinusoid to Analyze Using the TI-84 Plus Family and TI-Navigator™ System
90-Minute Hands-On • Beginner • CBL 2™, TI-Navigator®, TI-84 Plus Silver Edition
Peg Aloth Becker, Kalamazoo Math and Science Center, JENISON, MI, USA
This session will include a brief introduction to the TI-Navigator™ system. Participants will then hum into a Vernier Software & Technology® microphone connected to TI CBL 2™ data collection devices and TI-84 Plus graphing calculators. The graphed sinusoids will be analyzed using the STAT function. Other Vernier data collection sensors and probes may also be demonstrated.

8:15am - 9:45am

Parlor 357
PRECALCULUS, CALCULUS

226 Seeing the Composed Function y=sin(2x) Using the TI-84 Plus Graphing Calculator and TI’s CBL 2™ Data Collection Device
90-Minute Lecture/Demonstration • Beginner • CBL 2™, TI-83 Plus, TI-89 Titanium
Shin Watanabe, Tokai University, SHIZUOKA, JAPAN
Co-Presenters: Cheiko Fukuda, Ayako Kikumoto
Making a graph with TI’s CBL 2™ data collection device is interesting for every student. The session will show the composed functions y=sin(2x) with the hiker program – “using the walking” and “the hiker” The function has two variables, one is time and other is distance. The time variable is not visible, so it changes according to the distance. Participants will draw two white cycles on the flower, one is moving x and other is 2x, seeing the x. It is important to understand the rule of functions. This session will use the definition of the trigonometric functions.

8:15am - 9:45am

Reunion G
CALCULUS, GENERAL MATH

227 TI-Nspire™ CAS Primer and Calculus with TI-Nspire™ Technology and SMART Board™ Technology
90-Minute Hands-On • Beginner, Intermediate, Advanced • TI-Nspire™ CAS
Sean Bird, Covenant Christian High School, INDIANAPOLIS, IN, USA
From new users to those who want to learn about some of the more advanced features of TI-Nspire™ CAS technology, this session offers hands-on activities featuring the use of this integrated multiple representation math and science learning technology. Receive a handout of “TI-Nspire™ CAS Primer (especially for TI-83/84 users)” written by the presenter. Calculus .tns files of activities and explorations will be available and demonstrated using a SMART Board® interactive whiteboard.

8:15am - 9:45am

Reunion E
CALCULUS

228 Integrating Technology Using TI-Nspire™ CAS Technology
90-Minute Hands-On • Beginner, Intermediate • TI-Nspire™ CAS
Peter Fox, Elizabeth Murdoch College, SYDNEY, AUSTRALIA
A much greater range of challenging Calculus application questions becomes accessible when students are using a Computer Algebra System (CAS). Even more so when using TI-Nspire™ CAS technology. The questions explored in this hands-on workshop will demonstrate the need for student understanding. The questions are drawn from the presenter's experience teaching and assessing students in a CAS-enabled state education system.

8:15am - 9:45am

Reunion F
ALGEBRA 1, ALGEBRA 2

229 Algebra Under the Sheets: Investigating CAS Spreadsheets with the TI-Nspire™ handheld
90-Minute Hands-On • Beginner, Intermediate • TI-Nspire™, TI-Nspire CAS™
Michael Edwards, Miami University, OXFORD, OH, USA
Co-Presenters: Michael Meagher, Aid Osqwe-Rico
Add new life to your algebra instruction! The TI-Nspire™ CAS learning handheld links the power of symbolic manipulation with the flexibility of spreadsheets to provide students (and their teachers) fresh ways to consider algebraic generalization. We will share several inquiry based, classroom-ready activities that exploit this capability.

8:15am - 9:45am

Reunion H
GENERAL INTEREST, GENERAL MATH

230 New Views at Teaching and Learning with a Computer Algebra System (CAS)
90-Minute Lecture/Demonstration • Beginner, Intermediate, Advanced • TI-Nspire™ CAS
Bernhard Kutzler, ACDCA, LINZ, AUSTRIA
Using powerful technology such as a Computer Algebra System (CAS) for teaching and learning means enormous enrichment that, for many educators – in particular novices and technophobes – at first glance too complicated. This session offers several views at how to involve technology in the classroom, particularly CAS that can be helpful in various ways, such as for planning its proper use, getting more educators excited about educational technology and making teacher training more efficient.

8:15am - 9:45am

Marsalis A
ADMINISTRATOR, ALGEBRA 2, CALCULUS, PREPRECALCULUS

231 Parametric Representation with TI-Nspire™ Technology
90-Minute Hands-On • Beginner • TI-Nspire™
Richard Parr, Rice University, HOUSTON, TX, USA
Enhance the teaching of Algebra 2 and Precalculus by incorporating parametric graphing throughout the curriculum. TI-Nspire™ technology allows for parametric and functional representations to be graphed simultaneously, guiding a deeper understanding of concepts related to functions.

8:15am - 9:45am

Marsalis C
ALGEBRA 1, GENERAL INTEREST

232 A Beginner’s Look at the TI-Navigator™ System
90-Minute Hands-On • Beginner, Intermediate • TI-Navigator™, TI-84 Plus, TI-84 Plus Silver Edition
Gina Alford, Asheboro High School, ASHBORO, NC, USA
The TI-Navigator™ system revolutionized how I teach – come see the basics of the TI-Navigator™ system and how to incorporate these interactive features into a basic Algebra classroom. Simple TI-Nspire™ activities are included in this session.

8:15am - 9:45am

Marsalis E
ALGEBRA 1, ALGEBRA 2, GEOMETRY, STATISTICS

233 Multiple Representations – Teaching Mathematics with TI-Nspire™ Technology
90-Minute Lecture/Demonstration • Beginner • TI-Nspire™, TI-Nspire CAS™
Roshana Bloom, Sleepy Hollow High School, BROOKLYN, NY, USA
Learn how to use TI-Nspire™ technology. In this hands-on workshop, participants will connect together Algebra, Geometry and Statistics. Learn how to collect and display data, as well as interpret the results. Participants will leave with activities ready to use upon returning to their classroom.

8:15am - 9:45am

Reunion C
STATISTICS

234 Type I Error and Power of a Test: Statistics with the TI-84 Plus Graphing Calculator
90-Minute Hands-On • Intermediate, Advanced • TI-84 Plus Silver Edition
Mike Kehlce, Blue Valley North High School, KANSAS CITY, MO, USA
Simulation techniques that enhance the understanding of Type I error and the power of a test will be examined using the TI-84 Plus graphing calculator. Hands-on activities that model effective classroom use of technology will be presented.
### Saturday

#### Session Details

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| 8:15am - 9:45am | **Marsalis D**  
PRECALCULUS, ALGEBRA 1, ALGEBRA 2  
What's the Limit with TI-Nspire™ Technology: Exploring Limits of Exponential Functions with TI-Nspire™ Technology |
| 8:15am - 9:45am | **Pryor A**  
GENERAL SCIENCE, BIOLOGY, ELEMENTARY SCIENCE, GENERAL SCIENCE, MIDDLE GRADIES SCIENCE  
Food Safety Science Lab Using the TI-84 Plus Graphing Calculator, TI-Navigator™ System and ProbeWare |
| 8:15am - 9:45am | **Bryan-Beeman**  
GENERAL SCIENCE  
Getting Started with TI's CBL 2™ Data Collection Device |
| 8:15am - 9:45am | **Baker**  
How to Integrate the Topics in Algebra Graphing Calculator App to Enhance Algebra 1 |
| 8:15am - 9:45am | **Parlor 359**  
ALGEBRA 2, PRECALCULUS  
Making “Nspired” Connections Using TI-Nspire™ Technology |
| 8:15am - 9:45am | **Parlor 353**  
GENERAL MATH, ALGEBRA 1, ALGEBRA 2, GENERAL INTEREST, GENERAL SCIENCE, PRECALCULUS  
Teaching Programming Skills Using the TI-Navigator™ System and TI-84 Plus Graphing Calculator |
| 8:15am - 9:45am | **Pegasus B**  
ALGEBRA 1, GEOMETRY  
Line Designs for Algebra and Geometry |
| 8:15am - 9:45am | **Reunion A**  
ALGEBRA 1, MIDDLE GRADIES MATH  
Using the Topics in Algebra Graphing Calculator App to Enhance Algebra 1 |
| 8:15am - 9:45am | **Reunion B**  
ALGEBRA 1, GENERAL MATH, MIDDLE GRADIES MATH  
Real Data Leads to Real Learning |
| 8:15am - 9:45am | **Cumberland F**  
ALGEBRA 2, ALGEBRA 1  
NUMB3RS Activities for Algebra Classes |
| 8:15am - 9:45am | **Cumberland G**  
ALGEBRA 2, PRECALCULUS  
Having fun with Conics |
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Session Details

10:00am - 11:00am
Cumberland D
GEOMETRY, ALGEBRA 1, GENERAL MATH

261 Interactive Geometry for At-Risk Students with the TI-Nspire™ Handheld
60-Minute Hands-On • Beginner • TI-Nspire™
Christine Kasitz, Opportunities for Learning Charter School, SUN VALLEY, CA, USA
This hands-on demonstration of activities utilizes the TI-Nspire™ Handheld in a classroom for at-risk students in Geometry. Activities include constructing angle bisectors, perpendicular bisectors, chords and arcs, transformations and rotations, and many more. Come see how TI-Nspire™ technology can change the way students see Geometry and discover geometric concepts.

10:00am - 11:00am
Cumberland E
GEOMETRY, ALGEBRA 1

262 "Navigating" Transformations with the TI-84 Plus Graphing Calculator
60-Minute Hands-On • Beginner, Intermediate • TI-Navigator™, TI-84 Plus Silver Edition
Janna Smith, Region 5 ESC, SELBEE, TX, USA
Come experience the 32-student interactive system that provides wireless communication between students graphing calculators and the teacher’s PC. In this session, participants will see an activity involving transformations using the TI-84 Plus graphing calculator and TI-Navigator™ system.

10:00am - 11:00am
Moreno AB
PRECALCULUS, ALGEBRA 2

264 Graphing Composite Functions, One Step at a Time
Abt Maests, Bishop Manogue Catholic High School, RENO, NV, USA
Participants will learn how to use the TI-84 Plus family of graphing calculators to lead students in an investigation of graphing various composite functions using a step-by-step approach. This will give students a better understanding of how the twelve basic functions can be used to graph composite functions. Further investigation will be done using the TI-Navigator™ system’s Activity Center feature in Match My Graph lessons.

10:00am - 11:00am
Sanger AB
TRIGONOMETRY, PRECALCULUS

265 "Slinky" Sine Waves for Precalculus and Trigonometry Using the TI-83 Plus Graphing Calculator and TI's CBR 2™ Motion Detector
Kevin Matson, Moses Brown School, PROVIDENCE, RI, USA
Participants will use a slinky and TI's CBR 2™ motion detector to generate and collect data that can be analyzed with the CBL App on the TI-83 Plus graphing calculator. Participants will then be asked to calculate an equation that models their data and to test the accuracy of their calculation. This is a great activity for Precalculus and Trigonometry students after they have demonstrated a solid understanding of sine functions. Participants will further investigate transformations using the TI-84 Plus graphing calculator and TI-Navigator™ system.

10:00am - 11:00am
Parlor 357
PRECALCULUS, COLLEGE MATH/SCIENCE, PHYSICS

266 Exploring Projectile Motion with TI-Nspire™ Technology
60-Minute Lecture/Demonstration • Beginner, Intermediate • TI-Nspire™
Lisa Blank, Lyme Central School, CLAYTON, NY, USA
Explore projectile motion problems using the features of the TI-Nspire™ handheld. In this session, the TI-Nspire™ handheld and related software will be demonstrated. Attendees will use TI-Nspire™ handhelds to solve problems and explore variations on projectile motion problems. Problems to be explored will come from high-flying stunt acts and the world of sports - sure bet to grab the attention of students. Both quadratic and parametric functions will be explored, and data will be captured from parametric graphs and used to generate quadratic equations.

10:00am - 11:00am
Reunion G
CALCULUS

267 The Mean Value Theorem Meets TI-Nspire™ Technology
60-Minute Lecture/Demonstration • Intermediate • TI-Nspire™ CAS
Vicki Carter, West Florence High School, FLORENCE, SC, USA
Participants will explore the Mean Value Theorem using TI-Nspire™ CAS technology. Several recent AP Calculus problems will be the focus of the investigations.

10:00am - 11:00am
Reunion E
CALCULUS, PRECALCULUS

268 Using TI-Nspire™ CAS Technology to Visualize a Classic Calculus Problem
60-Minute Lecture/Demonstration • Beginner • TI-Nspire™ CAS
Patricia Gabriel, Thomas Jefferson High School for Science and Technology, ALEXANDRIA, VA, USA
Co-Presenter: Ann Drobnis
A classic calculus problem involves a person running and rowing from the shore to an island. How far should they run and how far should they row? TI-Nspire™ CAS technology allows the students to visualize what is happening as well as set up and solve the problem. Participants will receive overview worksheets with detailed instructions and solve the problem using TI-Nspire™ CAS technology.

10:00am - 11:00am
Reunion F
CALCULUS, PRECALCULUS

269 Infinite Power with the TI-89 Titanium Graphing Calculator
60-Minute Hands-On • Intermediate, Advanced • Apps, TI-89 Titanium
Kim Schieldrup, Mercer Island High School, MERCER ISLAND, WA, USA
Co-Presenter: Lynn Adus
Come find out more about what the TI-89 Titanium graphing calculator can do for educators and their students in a hands-on demonstration of the advanced features of this symbolic mathematics calculator. Precalculus and calculus activities designed for use with the symbolic features will be investigated. Learn how to help students transition from numeric to symbolic problem-solving. Learn to think differently about assessments when students have a calculator with Computer Algebra System (CAS) capabilities.

10:00am - 11:00am
Reunion H
GENERAL INTEREST

270 Inquire with TI-Nspire™ Technology
60-Minute Lecture/Demonstration • Beginner • TI-Nspire™
Joan McHenny, Consultant, DERRY, VT, USA
The student’s conceptual understanding can be enhanced and misconceptions can be corrected through inquiry-based activities. This session will share some “discovery learning” activities for TI-Nspire™ technology.

10:00am - 11:00am
Marsalis A
GENERAL INTEREST, GENERAL INTEREST

271 Multiple Solutions to One Lovely Problem using a TI-84 Plus Graphing Calculator, Computer Algebra System (CAS) and Soap Bubbles
Ron Lancaster, University of Toronto, HAMILTON, ON, CANADA
Participants will solve a standard max/min problem using Geometry, Algebra, Trigonometry and Calculus. Participants will also discuss models (one involves the use of soap bubbles) and make use of the TI-84 Plus graphing calculator and interactive Geometry software.

10:00am - 11:00am
Marsalis C
GENERAL INTEREST

272 Teaching Fractions To Reluctant High School Students
60-Minute Lecture/Demonstration • Beginner
Elizabeth Ahlgren, Morse High School, LA MESA, CA, USA
Many students believe they cannot do math because they never understood fractions. Yet many of the concepts taught require some skill with fractions. The result: students become bogged down in Algebra and Geometry classes. This session will help you discover a different algorithm for adding, subtracting and simplifying fractions designed to empower your students.

10:00am - 11:00am
Marsalis E
ALGEBRA 1, GENERAL INTEREST

273 Exploring Core-Plus with TI-Nspire™ Technology
60-Minute Hands-On • Beginner • TI-Nspire™
Ellen Bacon, NA, LAMBERTVILLE, MI, USA
In this hands-on session, participants will explore how innovative TI-Nspire™ capabilities can be used to support student discovery and problem solving in the 2nd edition of the Core-Plus Mathematics Algebra and Functions Strand.
9:00am - 10:00am
Session Details

10:00am - 11:00am
Reunion C
STATISTICS

274 Data & Statistics on TI-Nspire™ Technology
60-Minute Hands-On • Beginner, Intermediate • TI-Nspire™, TI-Nspire™ CAS
Lynda Femyough, Fletcher's Meadow SS, CALEDON, ON, CANADA
An introduction to TI-Nspire™ technology's built-in Data & Statistics function will be presented with examples from a grade 12 data management class.

10:00am - 11:00am
Marsalis D
STATISTICS, GENERAL SCIENCE

275 Some Exercises Where We Can Use Test of Hypothesis with the TI-84 Plus Graphing Calculator
60-Minute Hands-On • Beginner • TI-83 Plus Silver Edition
Alfonso Ledesma, UNITEC, ZAPOPAN, MEXICO
Co-Presenters: Rosaura Parra Gijuan, Manuel Gonzalez
This session will provide some practical exercises where the TI-84 Plus graphing calculator is used to solve hypothesis tests with average and standard deviation known, standard deviation stranger and difference of averages.

10:00am - 11:00am
Pryor AB
GENERAL SCIENCE, BIOLOGY

276 Shear Madness
60-Minute Hands-On • Beginner, Intermediate • CBL 2™, TI-84 Plus Silver Edition
Jeff Lukens, Roosevelt High School, SIOUX FALLS, SD, USA
In this session, participants will develop an understanding of the value of insulation in animals. Simple and effective models will be used to simulate a mammal living in a cold environment and the effect of insulation on the survival of that animal.

10:00am - 11:00am
Bryan-Beeman
CHEMISTRY, GENERAL SCIENCE

277 Improving Science Classroom Instruction Using TI-Nspire™ Technology
60-Minute Lecture/Demonstration • Beginner, Intermediate • TI-Nspire™
Greg Dodd, George Washington High, CHARLESTON, WV, USA
Participants will learn how to use the TI-Nspire™ handheld to improve science classroom instruction. A hands-on science activity will be used to teach TI-Nspire™ skills and proficiency in using the handheld's built-in Graphs and Geometry and Lists and Spreadsheet features. Handouts will be provided.

10:00am - 11:00am
Sunset Suite 3
ALGEBRA 1

279 TI-Nspire CAS Technology in the Algebra 1 Classroom
60-Minute Lecture/Demonstration • Beginner • TI-Nspire™ CAS
Margaret Bambirk, Hokusia County Schools, DELAND, FL, USA
Co-Presenter: Ruth Casey
Participants will explore how the different applications of the TI-Nspire™ CAS handheld can motivate students and help build a deeper understanding of Algebra.

10:00am - 11:00am
Parlor 359
ALGEBRA 2, ALGEBRA 1

280 Inspiring Mathematics Using TI-Nspire™ Technology
Joyce Lee, George Washington Cover High School, COLUMBUS, GA, USA
Ways to integrate and connect algebraic strands using TI-Nspire™ technology will be explored in this session.

10:00am - 11:00am
Parlor 353
GENERAL INTEREST, ALGEBRA 1, ALGEBRA 2, GEOMETRY, MIDDLE GRADES MATH, PRECALCULUS

281 Conics and Other Mathematical Curves in the Real World Using the Calc/Comp Program
Scott Oliver, AE Stevensonn HSL, JACOLDSHIRE, IL, USA
Conic sections, spirals, cycloids,and fractals will be illustrated and discussed using paper folding, TI-83 Plus, TI-84 Plus and TI-89 Titanium graphing calculator programs, Java applets and the Cabri™ Jr. Geometry application (App). Real and humorous examples will be explored, with teachers at all levels of expertise invited to attend.

11:15am - 12:45pm
Reunion A
ALGEBRA 1, GENERAL MATH

282 The TI-Navigator™ System in the Algebra Classroom
90-Minute Hands-On • Beginner, Intermediate • TI-Navigator™, TI-84 Plus Silver Edition, TI SmartView™
Lauren Jensen, Wisconsin Heights High School, RICHLAND CENTER, WI, USA
Participants will explore the many uses of the TI-Navigator™ system in the Algebra classroom with interactive and hands-on experiences.

11:15am - 12:45pm
Reunion B
ALGEBRA 1, ALGEBRA 2

284 How do we “Nspire” the less than inspired? Using TI-Nspire™ Technology with our Lowest Achievers
90-Minute Hands-On • Beginner, Intermediate • TI-Nspire™, TI-Nspire™ CAS
Jessica Koch, Case High School, RACINE, WI, USA
Have you taught lower level students that have little-to-no-interest in anything you communicate in class? Now there is a way to “Nspire” them into actually enjoying math. This session will include activities that feature TI-Nspire™ technology, and participants will receive ready-made lesson plans.

11:15am - 12:45pm
Cumberland L
ALGEBRA 2, PRECALCULUS

285 Work Smarter Not Harder in Your Algebra Classroom Using the TI-84 Plus Graphing Calculator and TI-Navigator™ System
90-Minute Hands-On • Intermediate • Apps, CBL 2™, CBR™, TI-Navigator™, TI-84 Plus Silver Edition, TI SmartView™
Marceline Carr, Little Rock School District, LITTLE ROCK, AR, USA
Co-Presenter: Vanessa Cleaver
This will be an interactive session using the TI-Navigator™ system and TI-84 Plus graphic calculator, which are designed to keep the entire classroom engaged in exploring real-world algebra problems.

11:15am - 12:45pm
Cumberland F
ALGEBRA 2, GEOMETRY

286 “Nspirational” Algebra
90-Minute Hands-On • Beginner • TI-Nspire™
Sam Gough, The Westminster Schools, ATLANTA, GA, USA
Co-Presenter: Jill Gough
This session will present classroom-tested activities using TI-Nspire™ technology. The activities will show how TI-Nspire™ technology can bridge the gap between Algebra and Geometry. Connections between these two areas of mathematics will be investigated.

11:15am - 12:45pm
Pegasus B
ALGEBRA 1, MIDDLE GRADES MATH

287 Understanding The Spirit of TI-Nspire™ Technology: Multiple Representations Using the Document Model
90-Minute Hands-On • Intermediate, Advanced • TI-Nspire™, TI-Nspire™ CAS
Charles Vonder Embse, Central Michigan University, MT. PLEASANT, MI, USA
The true spirit of the TI-Nspire™ handheld comes from its ability to explore a concept or problem from multiple perspectives. This effective pedagogical model is facilitated by the “document model” built into TI-Nspire™ technology. The assignment will show how TI-Nspire™ technology can bridge the gap between Algebra and Geometry. Connections between these two areas of mathematics will be investigated.
90-Minute Hands-On • Beginner, Intermediate, Advanced • TI-Navigator™, TI-84 Plus Silver Edition

Tom Hanson, Thompson Valley High School, LOVELAND, CO, USA

Use real data collected from QuickTime® video and using TI-Nspire™ technology to create a trigonometric equation and an exponential equation that will model the data with amazing accuracy out to more than 40 seconds.

11:15am - 12:45pm
Cumberland J
ALGEBRA 1, ALGEBRA 2, PRECALCULUS

296 Making Math Fun with the TI-83/84 Explorer™ Graphing Calculator Using Literature and Games
90-Minute Hands-On • Beginner, Intermediate • Apps, TI-83/84 Explorer™
Heather Riddle, Granite School District, WEST JORDAN, UT, USA
Participants will explore a variety of activities that use the TI-83/84 Explorer™ graphing calculator to incorporate games and literature in teaching different mathematical concepts. Participants will receive handouts and a CD with all of this session’s activities and more.

11:15am - 12:45pm
Cumberland A
ELEMENTARY MATH, MIDDLE GRADES MATH, MIDDLE GRADES MATH

297 The Power of the TI-73 Explorer™ Graphing Calculator In Grades K-8
90-Minute Hands-On • Beginner • Apps, TI-73 Explorer™, TI SmartView™
Ann Bedoese, Columbia College, COLUMBIA, MO, USA
In this session, participants will explore the power of the TI-73 Explorer™ graphing calculator as a tool for enriching the teaching and learning of elementary and middle school mathematics topics. Come explore fraction capabilities and the calculator’s Area Formulas App, Geoboard App, Number Line App, and Games

11:15am - 12:45pm
Parlor 362
MIDDLE GRADES MATH, ALGEBRA 1

293 An Hour with the Tower: Using the TI-83 Plus/TI-84 Plus Graphing Calculator and Other Approaches to Investigate the Tower of Hanoi Problem.
Larry Ottman, Haddon Heights, Art/Sci High School, HADDON HEIGHTS, NJ, USA
Participants will explore this rich and interesting problem using TI graphing calculators and make connections with other areas of mathematics including binary numbers, probability, recursion and sequences, as well as an amazing solution achieved through a paper folding activity.

11:15am - 12:45pm
Cottonbowl
ALGEBRA 1

294 Mystery Graphs: Starbursts and Hearts
90-Minute Hands-On • Beginner, Intermediate • TI-84 Plus Silver Edition, TI SmartView™
Judy Wheeler; Bernen County OSB, BIRKEN SPRINGS, ME, USA
Participants will see how to use graphing calculator technology to help students visualize function transformations, operations and compositions.

11:15am - 12:45pm
Marsalis F
MIDDLE GRADES MATH

295 Exploring the Geometrical Terrain of Middle Grades Mathematics with the TI-Navigator™ System
90-Minute Hands-On • Apps, TI-Navigator™, TI-73 Explorer™
Christine Browning, Western Michigan University, GIBBLES, MI, USA
Co-Presenter: Judy O'Neal
Investigate how the TI-Navigator™ system and TI-73 Explorer™ Apps such as GeoBoard, SMILE and Explorer Draw are used with pre-service/in-service teachers as tools for promoting and assessing conceptual understanding of middle grades Geometry concepts.

11:15am - 12:45pm
Parlor 362
MIDDLE GRADES MATH, ALGEBRA 1

290 Learn to create LearningCheck™ Documents and Use the Class Analysis feature of the TI-Navigator™ System
90-Minute Hands-On • Beginner, Intermediate • TI-Navigator™, TI-84 Plus Silver Edition
Michele Bigelow, Bartlett HS, DOUGLAS, MA, USA
Co-Presenters: Carrie Gunther
Are you using the TI-Navigator™ system but uncomfortable with the LearningCheck™ and Class Analysis features? Are you unsure how to create your own LearningCheck documents or what to do with the resulting Class Analysis files? Do you have trouble collecting student answers or finding class results at the end of a LearningCheck activity? In this session, you will learn how to create your own LearningCheck document using the TI-Navigator™ system. You will also learn how to use Class Analysis to get the most out of your results. Tips for integrating these features with the system’s Quick Poll feature will also be shared.

11:15am - 12:45pm
Cumberland I
ALGEBRA 1, ALGEBRA 2

288 The Shapes of Cleveland
90-Minute Hands-On • Beginner, Intermediate, Advanced • TI-Navigator™, TI-84 Plus Silver Edition
Sheryl Edwards, SuccessTech Academy, ELYRIA, OH, USA
Co-Presenter: Elizabeth Nelson
Algebra 2 and Precalculus students were given a page of graphics of parent functions and a digital camera. They then walked the streets of downtown Cleveland, OH, in search of structures to photograph that would represent each function. The pictures taken by the students will be presented in this session using the TI-Navigator™ system’s Activity Center feature. Participants will then use the TI-84 Plus graphing calculator to match each picture with a graph. Participants will also be given the opportunity to take pictures and learn to upload them into the TI-Navigator™ system’s Activity Center feature. Bring a digital camera if you have one – there will be several cameras available to sign out for this session.

11:15am - 12:45pm
Cumberland H
ALGEBRA 2, GENERAL INTEREST

289 Buckaroo Come on Over for a Delicious Sampler Platter of Activities from TI’s EXPLORATIONS™ Book “Real Math Made Easy” (TI-84 Plus Graphing Calculators and TI’s CBR 2™ Device will be used)
90-Minute Hands-On • Beginner • Apps, CBR™, TI-84 Plus Silver Edition
Cassondra Bradley, Catholic Diocese & Memphis City Schools, CORDOVA, TENNESSEE, USA
If you have never used TI’s EXPLORATIONS™ series activity book ‘Real Math Made Easy,’ then this session is for you. Participants will be working in groups to collect data and obtain hands-on experiences with several of classroom activities.

11:15am - 12:45pm
Cumberland B
ALGEBRA 2, MIDDLE GRADES MATH

291 Gather and Deliver Using TI-SmartView™, TI-Connect™ and TI Interactive™ Software
90-Minute Hands-On • Beginner, Intermediate • Apps, CBR™, TI-84 Plus Silver Edition
Pamela Bailey, Spotsylvania County Public Schools, FREDERICKSBURG, VA, USA
From the Internet to the personal computer to the graphing calculator, data may be gathered to analyze and explore. TI-SmartView™ and TI-Interactive™ software and the TI-84 Plus graphing calculator will be used to gather and dispense data. Which path will you choose to investigate the Algebra lesson of the day?

11:15am - 12:45pm
Cumberland K
TRIGONOMETRY

292 The 21st Century Spring Problem Real Data Using TI-Nspire™ Technology and QuickTime® Video
90-Minute Hands-On • Intermediate, Advanced • TI-Nspire™
Tom Hanson, Thompson Valley High School, LOVELAND, CO, USA
Use real data collected from QuickTime® video and using TI-Nspire™ technology to create a trigonometric equation and an exponential equation that will model the data with amazing accuracy out to more than 40 seconds.

11:15am - 12:45pm
Cumberland G
ALGEBRA 1, ALGEBRA 2, MIDDLE GRADES MATH

287 The Power of the TI-73 Explorer™ Graphing Calculator In Grades K-8
90-Minute Hands-On • Beginner • Apps, TI-73 Explorer™, TI SmartView™
Ann Bedoese, Columbia College, COLUMBIA, MO, USA
Participants will explore a variety of activities that use the TI-73 Explorer™ graphing calculator to incorporate games and literature in teaching different mathematical concepts. Participants will receive handouts and a CD with all of this session’s activities and more.

11:15am - 12:45pm
Cumberland B
ELEMENTARY MATH, MIDDLE GRADES MATH

295 Practice is indispensable in learning mathematics, yet students resist it. Games motivate students and make practice fun. This session presents a variety of games that can be used with the TI-73 Explorer™ graphing calculator that re-enforce taught skills.

11:15am - 12:45pm
Marsalis G
MIDDLE GRADES MATH, GEOMETRY

298 The Power of the TI-73 Explorer™ Graphing Calculator In Grades K-8
90-Minute Hands-On • Beginner • Apps, TI-73 Explorer™, TI SmartView™
Ann Bedoese, Columbia College, COLUMBIA, MO, USA
In this session, participants will explore the power of the TI-73 Explorer™ graphing calculator as a tool for enriching the teaching and learning of elementary and middle school mathematics topics. Come explore fraction capabilities and the calculator’s Area Formulas App, Geoboard App, Number Line App, Probability Simulation App and more.

11:15am - 12:45pm
Cumberland A
ELEMENTARY MATH, ELEMENTARY MATH, MIDDLE GRADES MATH

296 Making Math Fun with the TI-83/84 Explorer™ Graphing Calculator Using Literature and Games
90-Minute Hands-On • Beginner, Intermediate • Apps, TI-73/84 Explorer™
Heather Riddle, Granite School District, WEST JORDAN, UT, USA
Participants will explore a variety of activities that use the TI-73/84 Explorer™ graphing calculator to incorporate games and literature in teaching different mathematical concepts. Participants will receive handouts and a CD with all of this session's activities and more.

11:15am - 12:45pm
Cumberland B
MIDDLE GRADES MATH, MIDDLE GRADES MATH
## Session Details

### Saturday, March 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
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<tbody>
<tr>
<td>11:15am - 12:45pm</td>
<td><strong>Cumberland B</strong> MIDDLE GRADES MATH</td>
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| 299           | 115:15pm - 12:45pm - **Inspiring Integer Ideas with the TI-Navigator™ System through Activity Center**  
Angela Ciezowski, North Junior High, RICHARDSON, TX, USA  
Guest Speaker: Kemea Kelleman  
Looking for inspiring, new ideas for teaching integers in your classroom? This session will help beginning TI-Navigator™ system users integrate middle school integer lessons in their classrooms using the TI-Navigator™ system and Activity Center feature. |
| 11:15am - 12:45pm | **Cumberland C** GEOMETRY                                                          |
| 300           | 11:15am - 12:45pm - **Inspire your Geometry Students with TI-Nspire™ Technology**  
Jennifer Chirles, Gen. Douglas MacArthur HS, LEVITTOWN, NY, USA  
Co-Presenter: Brittany Zweibel  
Practical lessons for Algebra to Precalculus courses that utilize the TI-Nspire™ system’s various features. Participants will examine a hyperbolic function through reflection seismology. The characteristic speed of a layer, the depth to a boundary and TI-Nspire™ technology are all we need. |
| 11:15am - 12:45pm | **Cumberland D** GEOMETRY, STATISTICS                                              |
| 301           | 11:15am - 12:45pm - **Paper Folding Revisited with TI-Nspire™ Technology**         
Gregory Williams, Maury High School, NORFOLK, VA, USA  
Paper folding by hand, paper folding with a graphing calculator – come to this session and do both. Collect and analyse data and look at residuals. The TI-Nspire™ system will also be used. |
| 11:15am - 12:45pm | **Cumberland E** GENERAL INTEREST, ALGEBRA 2, PRECALCULUS                         |
| 302           | 11:15am - 12:45pm - **Translating Exponential Functions with the TI-84 Plus, Tables, List, and the TI-Navigator™ System**  
Philip Wagner, Peter Johannes High School, MODESTO, CA, USA  
Explore the translation of exponential functions (y = a*b^(x - h) + k) using the Table, List, Seq, Vars, and Stat Plot features of the TI-84 Plus Silver Edition. What is the effect of the graph on a, h, and k. How can the Activities Center of the TI-Navigator™ system be used to help students match graphs?  
Finally, Learning Check documents to check for understanding and follow-up on the progress of student learning. |
| 11:15am - 12:45pm | **Reverchon AB** PRECALCULUS, GENERAL INTEREST                                   |
| 303           | 11:15am - 12:45pm - **TI-Nspire™ Technology and Seismology**                       
Derrick Driscoll, Westminster SS, LONDON, ON, CANADA  
Participants will examine a hyperbolic function through reflection seismology. The characteristic speed of a layer, the depth to a boundary and TI-Nspire™ technology are all we need. |
| 11:15am - 12:45pm | **Moreno AB** PRECALCULUS, ALGEBRA 1                                             |
| 304           | 11:15am - 12:45pm - **We All Use “Navigator” Every Day!**                         
Jennifer Chirles, Gen. Douglas MacArthur HS, LEVITTOWN, NY, USA  
Co-Presenter: Brittany Zweibel  
Learn to use the TI-Navigator™ system to its fullest potential from TI-Math­Forward and TI Fast Track participants who use “Navigator Every Day” in their high school classrooms. Implement the TI-Navigator™ system on a daily basis for attendance, classroom management, assessment and content. Obtain practical lessons for Algebra to PRECALCULUS courses that utilize the TI-Navigator™ system’s various features. Take home ready-to-use activities that scaffold learning to be implemented at any level. Activities and lessons include data collection and regression using the system’s Activity Center feature, NetLogo and Cabri™ Jr. Geometry App. Be sure to bring your flash drive. |
| 11:15am - 12:45pm | **Sanger AB** TRIGONOMETRY, PRECALCULUS                                          |
| 305           | 11:15am - 12:45pm - **Enhance Your Trigonometry Class with Graphing Calculator Activities**  
90-Minute Lecture/Demonstration  
Bruce MacMillan, University of Arizona, TUCSON, AZ, USA  
Problems, applications and data collection activities will be presented to enhance Trigonometry classes. Participants will receive classroom-ready worksheets to use with students. Please be sure to bring your graphing calculator. |
| 11:15am - 12:45pm | **Reunion G** CALCULUS, PRECALCULUS                                             |
| 306           | 11:15am - 12:45pm - **Ti-Nspire™ Applications for Precalculus, Calculus, Algebra and Geometry**  
90-Minute Lecture/Demonstration  
Jeff Gadette, Oregon Episcopal School, PORTLAND, OR, USA  
Co-Presenter: Gabriel Edge  
Discover how to apply TI-Nspire™ technology to a variety of topics from Algebra 1 through Calculus. The TI-Nspire™ system’s ability to link diagrams, spreadsheets and graphs will greatly enhance students’ understanding of mathematics. This session will include TI-Nspire™ CAS technology. |
| 11:15am - 12:45pm | **Reunion E** CALCULUS, PHYSICS, PRECALCULUS                                     |
| 307           | 11:15am - 12:45pm - **Inspire Your Students: Learn How to Use Ti-Nspire™ and Ti-Nspire™ CAS Technology**  
90-Minute Hands-On  
Co-Presenter: Ricardo Avazia  
Teachers can use Ti-Nspire™ and Ti-Nspire™ CAS electronic documents to create dynamic mathematical objects. Students experience the thrill of mathematical discovery when they interact with these objects. Participants will experiment with sample Ti-Nspire™ documents in this hands-on workshop. |
| 11:15am - 12:45pm | **Reunion F** PRECALCULUS                                                        |
| 308           | 11:15am - 12:45pm - **Math Prom: A Fun Way to Graduate – Using the TI-84 Plus Graphing Calculator on Amusement Parks**  
90-Minute Lecture/Demonstration  
Co-Presenter: Ricardo Arza  
How can a group of high school seniors going into engineering understand the importance of math and physics? Take them to an amusement park. This session will show participants how a group of seniors used the TI-84 Plus graphing calculator to determine the free fall concept to the area under the curve. The session will focus on the explaining the activities, as well as provide hands-on experience using roller coaster scale models. |
| 11:15am - 12:45pm | **Reunion H** GENERAL INTEREST                                                   |
| 309           | 11:15am - 12:45pm - **Curves in a Circle**                                       
90-Minute Hands-On  
Co-Presenter: Robin Levine-Wissing  
Twenty years experience and 20 graphing calculator features you may not have known about. Join in on this session to explore some graphing features not automatically found by the average calculator user. |
| 11:15am - 12:45pm | **Reunion I** MIDDLE GRADES MATH                                                |
| 310           | 11:15am - 12:45pm - **20 Years: Twenty Lesser-Known Features of TI-83 Plus/TI-84 Plus Graphing Calculators**  
90-Minute Hands-On  
Co-Presenter: Robin Levine-Wissing  
Twenty years experience and 20 graphing calculator features you may not have known about. Join in on this session to explore some graphing features not automatically found by the average calculator user. |
11:15am - 12:45pm
Marsalis A
GENERAL INTEREST, ALGEBRA 1, ALGEBRA 2, CALCULUS, GEOMETRY, PRECALCULUS, TRIGONOMETRY
What is Under that APP Key on My TI-83 Plus/TI-84 Plus Graphing Calculator?
90-Minute Hands-On • Beginner • TI-Nspire™
Vincent Doty, Canastota Central Schools, CANASTOTA, NY, USA
This hands-on session will focus on the pedagogical assistant known as APPs (built-in graphing calculator software applications). Get ready to view the TI-Nspire™ System View within the TI-Nspire™ handheld.

11:15am - 12:45pm
Marsalis B
GENERAL INTEREST
Extend the Power of the TI-Navigator™ System with Participatory Simulations
Corey Budry, Inspire Learning, WESTON, FL, USA
This session offers a hands-on introduction and overview of the capabilities of the TI-Navigator™ System. The NetLogo extension has been demonstrated in prototype form and at research sites for the past six years – come find out how you can bring it into your own classroom today. In Navigator-NetLogo activities, students can engage in activities called Participatory Simulations, which allow them their first-hand experience of real-world math and science in systems such as ecosystems, human and animal populations, and aggregates at the molecular level. Moreover, because the environment is authorable, you can customize these simulations or add to them yourself. This session will demonstrate the use of the system and use it to run two simulations with the group. This is designed to give you a clear idea of how the system works. We’ll also walk through the simple, three-click installation process that will get you running these and other simulations on your TI-Navigator™ system, back at home in your classroom. The session’s presenter was a lead developer of the system and is authorized to do professional development for it. Best of all, the software and sample models are free to TI-Navigator™ system users.

11:15am - 12:45pm
Marsalis C
GENERAL INTEREST
Bouncing Ball Motion Data Collection and Modeling
90-Minute Hands-On • Beginner, Intermediate • CBR™, TI-83 Plus Silver Edition
Gregory Williams, Maui High School, KORFOlk, HI, USA
Come and collect motion data for a bouncing ball. See how the mathematical analysis (modeling) of the data unlocks the mystery of gravity.

11:15am - 12:45pm
Marsalis D
STATISTICS, GENERAL MATH, PRECALCULUS
Ti-Nspire™ Technology and Statistics: A Perfect Match
90-Minute Hands-On • Intermediate • TI-Nspire™, TI-Nspire™ CAS
Sharon Cichocki, Hamburgt High School, ORCHARD PARK, NY, USA
This hands-on session focuses on using Ti-Nspire™ Technology to demonstrate statistical concepts. Experience Ti-Nspire™ technology in a new statistical way.

11:15am - 12:45pm
Pryor AB
BIOLOGY, MIDDLE GRADES SCIENCE
Navigating Biology with Agile Mind
90-Minute Hands-On • Intermediate, Advanced • TI-Navigator™, TI-84 Plus
Xavier Gonzalez, San Benito High School, BROWNSVILLE, TX, USA
Learn how to create highly interactive Biology lessons for your students by using the TI-Navigator™ system along with Agile Mind. The TI-Navigator™ system gets all of your students active in the learning classroom. Teachers will learn how to use the TI-Navigator™ system and its various components in the classroom for both lecture and instant student assessment.

Session Details
Session Details
Session Details
323 Navigating Algebra 1 with NUMB3RS
60-Minute Lecture/Demonstration • Beginner, Intermediate • Ti-Navigator™, Ti-84 Plus Silver Edition, Ti-Nspire™, Ti-Nspire™ CAS
John F. Mathey, Benjamin Banneker Academic HS, BETHESDA, MD, USA
This session will focus on use of the activities written to supplement the CBS TV series NUMB3RS - a joint effort by Texas Instruments and CBS in association with NCTM to provide 9-12 teachers and students with high-quality, engaging activities for understanding math. NUMB3RS activities are developed by teams of math teachers and mathematicians. The presenter, one of the writers of these activities, will explain how to use the activities with the Ti-Navigator™ system in an Algebra 1 classroom.

324 Art and the Coordinate Plane
Naomi Fried-Kokason, Chatsworth High School, WINNETKA, CA, USA
Whether students are seeing the coordinate plane for the first time or they are not as engaged after seeing it year after year, they are sure to love this lesson, which can be expanded to cover rigid motion in geometry, and adapted for the Ti-Nspire™ technology.

325 Activities for Algebra Using the TI-83 Plus/TI-84 Plus Graphing Calculator
Vicki Shirkey, Community High School, COWHHP, MS, USA
This session is for beginner or intermediate Ti-83 Plus/TI-84 graphing calculator users and will feature several activities that can be used in the Algebra classroom.

326 What Can I Do with that Apps Button on the TI-73 Explorer™ Graphing Calculator?
60-Minute Hands-On • Beginner, Intermediate • Apps, Ti-73 Explorer™
Donna Harris, ESC Region XI, SAGAWAY, TX, USA
Participants will explore the following applications (Apps) on the TI-73 Explorer™ graphing calculator: Algebra Formulas, Geoboard, Probability Simulation and Rational Number Rampage.

327 Sequences and Series – Investigate Using Recursion and Iteration
Roberta Kiss, 73, SAN RAFAEL, CA, USA
The topic of sequences and series can be introduced in Algebra 1 and extended in later courses. Recursion methods will be used and extended to model sequential change.

328 The Ti-Navigator™ System and the Dynamic Classroom
60-Minute Hands-On • Beginner, Intermediate, Advanced • Ti-Navigator™
Lawrence Maggio, Plainview High School, BETHPAGE, NY, USA
This session is geared towards high school math teachers that can use the Ti-Navigator™ system while exploring the affects of the discriminant on quadratic functions. Participants will learn to use the system’s Activity Center, LearningCheck™ and Quick Poll features to help ensure student understanding of the four possible discriminants.

329 Using the Finance Feature to Calculate Car and Mortgage Payments
Thomas Sullivan, Niswot High School, NIWOT, CO, USA
This session will explore the finance application (Apps) on TI-83 Plus/TI-84 Plus graphing calculators. Through a series of activities, participants will learn how to construct an investment, afford their dream car and help their parents finance a house. If you are in the market for a new house, this session is also for you. The Finance App is a great way to get students, parents and colleagues involved in mathematics.

330 You Need Calculator Activities? We’ve Got Activities on the TI Web site
Roy O’Brien, Cedarbrook Middle School, MALVERN, PA, USA
Co-Presenter: Jesus Guitierrez
Need an activity for a particular lesson? The TI Web site has subject-specific activities that are long enough for block schedules or short enough for a 45-minute class. Come find out how to locate the activity you need. They are available and free to download and use as part of your lesson plan.

331 Visualization and Cabri™ 3D
60-Minute Lecture/Demonstration • Beginner, Intermediate
Kate MacKrell, Institute of Education, London, UK, KINGSTON, ON, CANADA
The session will look at ways in which Cabri™ 3D can be used to enhance students’ ability to visualize in 3D, either through the teacher’s construction of files in collaboration with students, the use of preconstructed files or independent student activities. No prior experience with Cabri 3D is required.

332 Conic Sections With Cabri™ 3D and TI-Nspire™ Computer Software
60-Minute Lecture/Demonstration • Beginner, Intermediate • Ti-Nspire™, Ti-Nspire™ CAS
Roy Klein, Northern Illinois University, GLENELYN, IL, USA
The conic sections topic seems to be disappearing from the secondary mathematics curriculum. Why not include their study in the Geometry classroom? Come see how this can be accomplished with Cabri™ 3D and Ti-Nspire™ computer software.

333 Education Technology Product Stewardship Program – Managing the Environmental Impact of Calculators and Educational Accessories
60-Minute Lecture/Demonstration • Beginner, Intermediate, Advanced
Richard Garton, Texas Instruments - Education Technology, DALLAS, TX, USA
The session will provide participants with an overview of how Texas Instruments Corporate Social Responsibility objectives are applied to the design and manufacturing of Education Technology products and the actions taken to provide products with low environmental impact. The Education Technology’s Product Stewardship Manager will present the various actions taken during the design and manufacturing of Education Technology products. There will be examples of the internal and industrial standards that are utilized to manufacture products with low environmental impact so they can safely be used by the customer and meet standards and regulations for the elimination of hazardous materials.

334 Algebra for All, Ti Graphing Calculators for All
60-Minute Hands-On • Beginner, Intermediate • Ti-84 Plus Silver Edition
Karen Gladi, Teacher Created Materials Publishing, HUNTINGTON BEACH, CA, USA
This session will introduce beginner and intermediate users to Ti graphing calculator strategies that build conceptual understanding of Pre-Algebra and Algebra 1 concepts. Teachers will receive free lesson plans and activities.
1:00pm - 2:00pm
Marsalis G
MIDDLE GRADES MATH, GEOMETRY
335 Using the TI-73 Explorer™ Graphing Calculator and TI-Navigator™ System to Enhance Fun and Learning in the Mathematics Classroom
60-Minute Hands-On • Intermediate • TI-Navigator™, TI-73 Explorer™
Melissa Jackson, Moniningahela Middle School, SEWELL, NJ, USA
At this hands-on session, participants will experience reflections, rotations and translations coming alive on the TI-73 Explorer™ graphing calculator and TI-Navigator™ system. Learn how the TI-Navigator™ system’s Screen Capture, Quick Poll, LearningCheck™ and Activity Center features can be used to maximize the learning experience. See how the use of technology can increase conceptual understanding and make learning math fun. These tools can improve instructional changes, change student attitudes towards mathematics and create a dynamic, student-centered class.

1:00pm - 2:00pm
Marsalis F
GENERAL MATH
336 Navigating Through Discounts and Sale Prices
60-Minute Hands-On • Intermediate • TI-Navigator™, TI-73 Explorer™
Kate Whitsett, Lake Highland, Junior High, DALLAS, TX, USA
This session will show real world applications while introducing algebraic thinking using the TI-Navigator™ system and the TI-73 Explorer™. Participants will walk away with several activities involving discounts and sales tax.

1:00pm - 2:00pm
Marsalis B
MIDDLE GRADES MATH
337 Box-and-Whisker Plots in Real-World Situations Using TI-SmartView™ Software
60-Minute Hands-On • Beginner • TI-83 Plus, TI-SmartView™
Lisa Phillips, Florida State University School, TALLAHASSEE, FL, USA
Participants will be led through a lesson plan to help students learn the value of box-and-whisker plots in real-world situations. First, the CPSS system will show prior knowledge. Participants will then measure their heights and record the results using TI-SmartView™ simulator software. These results will be used to compare with hand drawn charts and included in a discussion of how to relate them to real-world situations.

1:00pm - 2:00pm
Cumberland A
ELEMENTARY SCIENCE, ELEMENTARY MATH
338 Science is Powerful!
60-Minute Hands-On • Beginner • CBL 2™, TI-73 Explorer™
Barbara Anderson, Kilspell School District 5, KAUSPEL, MT, USA
Science is a powerful thing but just what power is in different batteries waiting to be discovered by your students? Using TI CBL 2™ data collection device with a voltage probe, unlock the secret to why some electronic games take different amounts and different sizes of batteries. Explore the sum of power as you add up batteries.

1:00pm - 2:00pm
Cumberland B
MIDDLE GRADES MATH, ALGEBRA 1
339 The TI-84 Plus Graphing Calculator: A Great Tool that Increases Students’ App-etite for Mathematics
60-Minute Hands-On • Beginner, Intermediate • Apps, TI-84 Plus, TI-84 Plus Silver Edition
Jeannette Burdi, LAUSD, NORTH HILLS, CA, USA
The TI-84 Plus graphing calculator is a great tool that increases students’ App-etite for mathematics. Come and dine on/investigate topics accessible to middle grade students and easily modified for high school. The menu will include: Exploration of TI-84 Plus family models, linear relationships, iteration and recursion, calculator software applications (Apps) and much more - prepare to leave with a diggги bag of great ideas.

1:00pm - 2:00pm
Cumberland C
GEOMETRY, PRECALCULUS
340 Dynamic Geometry as a Bridge to Analysis
90-Minute Hands-On • Beginner, Intermediate • TI-Nspire™, TI-Nspire™ CAS
Bowen Kerins, Education Development Center, NEWTON, MA, USA
Analysis has always had a dual nature. On one hand, analysis is concerned with beautiful calculations that bring up hidden meanings and subtle connections, allowing one to express complex results in very compact forms. On the other hand, analysis is the study of continuous change, the study of covarying quantities. Dynamic Geometry software provides an opportunity for students to investigate analytic behaviors of functions with a minimum of algebraic symbolism, providing a bridge between what students learn in Geometry and what they learn in Precalculus.

1:00pm - 2:00pm
Cumberland D
GEOMETRY
341 Exploring Geometry using the Cabri™ Jr. Geometry App
60-Minute Hands-On • Beginner • Apps, TI-84 Plus Silver Edition, TI-SmartView™
Leah Niles, Illinois Wesleyan University, BLOOMINGTON, IL, USA
This is a hands-on session and introduction to the Cabri™ Jr. Geometry application (App). Participants will learn basic commands as well as explore basic geometric constructions and relationships. Basic activities in this session are designed to engage students in discovering geometric relationships and making mathematical connections. Topics that will be covered include lines, angles, quadrilaterals, circles, transformations and geometric relationships. The goal of this session is to orient teachers as to how to use the Cabri Jr. Geometry App in enriching the teaching of Geometry in the classrooms.

1:00pm - 2:00pm
Cumberland E
GEOMETRY
342 An Introduction to Ti-Nspire™ CAS Technology in the Geometry Classroom
60-Minute Lecture/Demonstration • Beginner • TI-Nspire™ CAS
Tracy Winger, Le Mars Community High School, LE MARS, IA, USA
This session will provide participants a hands-on demonstration of how TI-Nspire™ CAS technology can enrich the Geometry classroom. Come see how dynamically-linked constructions and representations allow students to bring mathematical relationships to life.

1:00pm - 2:00pm
Reverchon AB
PRECALCULUS
343 Precalculus: Where Math Ideas Come Together
60-Minute Hands-On • Intermediate • TI-84 Plus, TI-84 Plus Silver Edition, TI-SmartView™
Lynda Vincent, North Salem HS, NORTH SALEM, NY, USA
Co-Presenter: Patricia Giannetto
Participants will engage in hands-on problem-solving lab activities that connect a variety of mathematical ideas to real-world events.

1:00pm - 2:00pm
Moreno AB
PRECALCULUS, ALGEBRA 2
344 Precalculus – A Few of My Favorite Things
60-Minute Hands-On • Beginner, Intermediate • TI-Navigator™, TI-84 Plus Silver Edition, TI-SmartView™
Janice Mitchener, Carmel High School, CARMEL, IN, USA
This session will focus on some of the presenter’s favorite activities for the Precalculus classroom. Participants receive home lesson plans that are ready to use.

1:00pm - 2:00pm
Sanger AB
TRIGONOMETRY, PRECALCULUS
345 Oh, No – I Have a Flat Tire!
60-Minute Lecture/Demonstration • Beginner • TI-Nspire™
Patricia Montgomery, Thomas Jefferson High School for Science and Technology, FARRIFAX, VA, USA
Co-Presenter: Patricia Canver
Using the animation capabilities of TI-Nspire™ technology, a traditional trigometric modeling will come alive. Participants will model the motion of a tire as it rolls over a nail. Data will be collected and analyzed to determine the sinusoidal model that describes this motion.
<table>
<thead>
<tr>
<th>Session Details</th>
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<td><strong>1:00pm - 2:00pm</strong></td>
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<td><strong>Parlor 357</strong></td>
<td><strong>Marsalis E</strong></td>
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<tr>
<td>PRECALCULUS, ALGEBRA 2, CALCULUS</td>
<td>GENERAL MATH, MIDDLE GRADES MATH</td>
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<tr>
<td><strong>Graph Piecewise Functions, Regression Using the App Stats/List Editor</strong></td>
<td><strong>Marsalis E</strong></td>
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<tr>
<td>60-Minute Hands-On • Intermediate • Apps, TI-89 Titanium</td>
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<tr>
<td>Donald Griffin, Greenville Technical College, GREENVILLE, SC, USA</td>
<td>Co-Presenter: Robin Baumgamer</td>
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<tr>
<td>Participants will graph some piecewise functions, learn different ways of exploring and use the Stats/List Editor to graph a regression model.</td>
<td><strong>Reunion C</strong></td>
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<td><strong>Reunion G</strong></td>
<td><strong>GEOMETRY</strong></td>
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<tr>
<td>CALCULUS, PRECALCULUS</td>
<td><strong>GEOMETRY</strong></td>
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<tr>
<td><strong>Optimization Problems Revisited with TI-Nspire™ Technology</strong></td>
<td><strong>CALCULUS, PRECALCULUS</strong></td>
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<tr>
<td>60-Minute Lecture/Demonstration • Beginner • TI-Nspire™</td>
<td><strong>Reunion B</strong></td>
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<tr>
<td>Frederick Groves, Early College High School, MASSILLON, OH, USA</td>
<td><strong>CALCULUS</strong></td>
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<tr>
<td>By using TI-Nspire™ technology, this session will look at a number of optimization problems in the document model. This allows students to explore, manipulate models and make their own conjectures in multiple formats. Join in for an exploration into the versatile nature of this exciting technology – come be “Nspired.”</td>
<td><strong>Marsalis C</strong></td>
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<td>ALGEBRA 1, ALGEBRA 2</td>
<td><strong>CALCULUS</strong></td>
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<tr>
<td><strong>Get Smart with TI-SmartView™ Software for SMART Board™ Interactive Whiteboards</strong></td>
<td><strong>Marsalis C</strong></td>
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<tr>
<td>60-Minute Lecture/Demonstration • Beginner, Intermediate • TI-SmartView™</td>
<td><strong>CALCULUS</strong></td>
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<td>Scott Knopp, Glenbrook North High School, CHICAGO, IL, USA</td>
<td><strong>Reunion D</strong></td>
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<td>Explore how to use the SMART BOARD™ interactive whiteboard to help improve classroom instruction, as well as key features of TI-SmartView™ emulator software.</td>
<td><strong>Statistics</strong></td>
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Session Details

Saturday

1:00pm - 2:00pm
Sunset Suite 3
ALGEBRA 1, ALGEBRA 2

359 Data Collection with TI's CBR 2™ and CBL 2™ Devices for High School Mathematics
60-Minute Lecture/Demonstration • Intermediate • CBL 2™, CBR™
Lynn Adsit, Lake Washington High School, KIRKLAND, WA, USA
Co-Presenter: Kim Schledenup

If you've been using TI graphing calculators for a while and now want to broaden your skills to include real data collection, then this is the presentation for you. This session will include demonstrations and ideas for using TI's CBR 2™ and the CBL 2™ data collection devices with these accompanying data collection sensors: light, voltage and temperature. The goal is real data generation that models many of the key functions studied in Algebra 1 and 2.

1:00pm - 2:00pm
Parlor 359
MIDDLE GRADES MATH, ALGEBRA 1

360 Rethinking the Use of TI-Nspire™ CAS Technology in the Middle Grades
60-Minute Lecture/Demonstration • Beginner • TI-Nspire™ CAS
Darlene Whitkanack, Chicago Teacher Center, WINFIELD, IL, USA

This presentation will use TI-Nspire™ CAS technology to explore algebraic concepts with middle school students. How can educators help children see the correct applied operations to both sides of the equation? Based on research on how seeing this done correctly shortens the learning time for students, participants in this session will expand the ideas to the whole range of TI-Nspire™ CAS capabilities. See how technology can truly change the sequence of concepts educators teach in amazing ways.

1:00pm - 2:00pm
Parlor 353
GENERAL INTEREST, COLLEGE MATH/SCIENCE

361 TI-SmartView™ Software Scripting Makes Teaching Fun and Effective
60-Minute Lecture/Demonstration • TI-SmartView™
Ravinder Kumar, Alam State University, ALCOIN STATE, MS, USA

It is well established that interaction with students helps improve their learning. Math teachers are usually very busy writing on the black or white board. Scripting with TI-SmartView™ software helps a teacher plan teaching sessions so that the focus moves from the board to students, providing more time to interact with fellow students. Additionally, the scripting process involves careful and thoughtful working with the delivery of the lesson. It helps a teacher make the instruction more systematic, detailed and effective. This certainly results in a healthy learning environment. This session will use a modeling problem to show how to script the lesson.

2:15pm - 3:45pm
Pegasus A
ALGEBRA 1

362 Algebra Activities with the TI-Navigator™ System for Beginners
90-Minute Hands-On • Beginner • TI-Navigator™, TI-84 Plus Silver Edition
Pradence Cain, The University of Texas at Austin, AUSTIN, TX, USA

Participants will explore the TI-Navigator™ system’s Activity Center feature using topics from Algebra 1 such as graphing linear functions, probability, scatter plots and data analysis.

2:15pm - 3:45pm
Pegasus B
ALGEBRA 1, GEOMETRY

363 Wow, The TI Navigated My Classroom
90-Minute Hands-On • Beginner, Intermediate • TI-Navigator™, TI-84 Plus Silver Edition
Terry Potts, Cecil County Public Schools, ELKTON, MD, USA

Participants will receive a presentation on how the TI-Navigator™ system can be used with all levels of students and all topics. Specifics will include a demonstration of the system’s Activity Center, Screen Capture, Quick Poll and Class Analysis features.

2:15pm - 3:45pm
Reunion A
ALGEBRA 1, ALGEBRA 2, COLLEGE MATH/SCIENCE, MIDDLE GRADES MATH, PRECALCULUS

364 Bungee Barbie and Kamikaze Ken
90-Minute Hands-On • Beginner • TI-84 Plus Silver Edition
John Labfaster, Indiana University Purdue University IF Wayne, FORT WAYNE, IN, USA

Working in teams, participants will simulate the testing of the drop height of a bungee cord so that their action figure can come as close as possible to splashing in a pool of water without actually hitting the floor. It is maximum thrill but no kill. This activity has been used in middle school classrooms as well as in college Precalculus classes. The TI-84 Plus graphing calculator will be used in the session (although any graphing technology model may be used).

2:15pm - 3:45pm
Reunion B
ALGEBRA 1, ALGEBRA 2

365 It’s Never Too Late to Learn About Apps on the TI-84 Plus Silver Edition Graphing Calculator
90-Minute Hands-On • Beginner, Intermediate • TI-Navigator™, TI-84 Plus Silver Edition
Tracy Watson, University of Arkansas at Little Rock, MALVERN, AR, USA
Co-Presenter: Corey Boly

It’s never too late to learn about Apps on the TI-84 Plus Silver Edition graphing calculator. Participants will learn how to install and utilize TI graphing calculator applications (Apps) – Algebra 1 Part 1, Algebra 1 Chapter 5, Conics and Transformation Graphing. Learn how to work smart – not so hard.

2:15pm - 3:45pm
Cumberland F
ALGEBRA 1, 2, PRECALCULUS

366 How to Engage Middle School Students in the Exploration of Algebraic Concepts Using the TI-73 Explorer™ Graphing Calculator and TI-Navigator™ System
90-Minute Hands-On • Beginner • TI-Navigator™, TI-73 Explorer
Marty Mackay, Forest Park Middle School, EUCLID, OH, USA
Co-Presenter: Vanessa Ayers, Chris Brady

This session will feature the use of the TI-Navigator™ system’s Data Analysis feature to make instructional decisions based on the needs of students, as well as a lesson that was developed by the presenters to strengthen conceptual understanding of algebraic concepts. The presenters’ urban middle schools are in their second year of participating in TI’s MathForward program, which has enabled the school to raise its state test scores. Come hear about these accomplishments, other challenges as well as advice for implementing the program.

2:15pm - 3:45pm
Cumberland G
ALGEBRA 2, CALCULUS, PRECALCULUS, TRIGONOMETRY

367 Inspired Quadratics – Conceptual Investigations of Parabolas Using TI-Nspire™ Technology
90-Minute Hands-On • Beginner, Intermediate, Advanced • TI-Nspire™ CAS
Marc Garneau, Curriculum & Instructional Svs, SURREY, BC, CANADA

Come experience how TI-Nspire™ technology can help students to make powerful connections among multiple representations of parabolas to develop and to enrich their understanding. Participants will solve quadratic equations with complex roots – graphically.

2:15pm - 3:45pm
Cumberland H
ALGEBRA 1, 2, PRECALCULUS

368 Algebra Concepts on the TI-Nspire™ Handheld
90-Minute Lecture/Demonstration • Beginner • TI-Nspire™
Tracy Watson, University of Arkansas at Little Rock, MALVERN, AR, USA
Co-Presenter: Corey Boly

The TI-Nspire™ handheld offers teachers a new approach to presenting algebra concepts graphically, numerically, verbally and analytically using a document model approach. In this session, participants will get hands-on experience to this approach and discuss the doors it can open in the classroom.

2:15pm - 3:45pm
Cumberland L
MIDDLE GRADES MATH

369 Exploring Functions with the Transformation Graphing App
Shen Abel, Jr Marriott Academy, MALVERN, SC, USA

Use the Transformation Graphing application (Appl on a TI-84 Plus family graphing calculator to curve-fit linear, quadratic and sinusoidal data. Explore transformations of parent functions. This totally hands-on session is fun and informative. Participants also receive a CD of classroom-ready activity files.
## Session Details

### Saturday

**2:15pm - 3:45pm**

<table>
<thead>
<tr>
<th>Cumberland I</th>
<th>GENERAL INTEREST</th>
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<tbody>
<tr>
<td>370</td>
<td><strong>370 TI-Navigator™ System 101</strong></td>
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<tr>
<td></td>
<td>90-Minute Hands-On • Intermediate • TI-Navigator™, TI-84 Plus Silver Edition</td>
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<td></td>
<td>Corey Baby, Benton Public Schools, MALVERN, AR, USA</td>
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<td>Co-Presenter: Randy Lobe</td>
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<td></td>
<td>Perhaps you’ve experienced the TI-Navigator™ system from the student’s perspective but have been wondering what the teacher’s role is – then this session is for you. Come learn how to create a class, open the Screen Capture feature and launch a Quick Poll feature from the teacher’s classroom computer. This session will be a great opportunity for you to take the TI-Navigator™ system for a test drive.</td>
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### Saturday

**2:15pm - 3:45pm**

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<thead>
<tr>
<th>Cumberland J</th>
<th>GEOMETRY</th>
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<tbody>
<tr>
<td>371</td>
<td><strong>371 Julia and Mandelbrot Sets: Internet-Based Lessons</strong></td>
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<tr>
<td></td>
<td>Ryan McCluskey, Texas Tech University, LUBBOCK, TX, USA</td>
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<td>Explore some of the mathematics behind the Julia and Mandelbrot sets using Web-based activities for the Geometry classroom. Topics include complex number iteration, the creation of Julia sets and the connection between the Mandelbrot and Julia sets. Previous knowledge of Julia and Mandelbrot sets, while not required, is recommended.</td>
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### Saturday

**2:15pm - 3:45pm**

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<tr>
<th>Cumberland K</th>
<th>GEOMETRY</th>
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<tbody>
<tr>
<td>372</td>
<td><strong>372 Polyhedra and Nets using Cabri® 3D</strong></td>
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<td></td>
<td>90-Minute Hands-On • Beginner, Intermediate, Advanced</td>
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<td></td>
<td>Colette Labonde, University of Grenoble, GRENOBLE, FRANCE</td>
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<td>Participants will experience activities making use of Cabri® 3D facilities and direct manipulation that helps students understand better the structure of polyhedra and the relationships between a polyhedron and its nets. Some of these activities require the move from polyhedra to these nets and conversely. A range from simple activities to more complex ones will be provided. No prior knowledge of Cabri™ 3D is needed.</td>
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### Saturday

**2:15pm - 3:45pm**

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<tr>
<th>Parlor 362</th>
<th>GENERAL INTEREST</th>
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<tbody>
<tr>
<td>373</td>
<td><strong>373 An Exploration of the World of FREE Resources from TI</strong></td>
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<tr>
<td></td>
<td>60-Minute Demonstration • Beginner, Intermediate • TI-83 Plus, TI-84 Plus, TI-89 Titanium®, TI-10, TI-15 Explorer®, TI-Navigator™</td>
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<tr>
<td></td>
<td>Tanya McMahon, Texas Instruments, DALLAS, TX, USA</td>
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<td>Grab your picks and shovels and come along for this fun and informative exploration of the FREE resources TI has to offer. From NUMB3RS and EXPLORATIONS™ activities to funding resources, everyone should walk away from this dig with some newly found treasure.</td>
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### Saturday

**2:15pm - 3:45pm**

<table>
<thead>
<tr>
<th>Cottonbowl</th>
<th>ALGEBRA 2, PRECALCULUS</th>
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<tbody>
<tr>
<td>374</td>
<td><strong>374 Focus, Locus, Hocus Pocus! The Magic of the TI-Nspire™ Locus Tool</strong></td>
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<td></td>
<td>90-Minute Hands-On • Intermediate • TI-Nspire™, TI-Nspire™ CAS</td>
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<td>Suzanne Moyers, C.E. Byrd High School, SHREVEPORT, LA, USA</td>
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<td>Using the TI-Nspire™ Locus tool, students can connect geometric representations with their definitions in locus form. Multiple representations are possible using TI-Nspire™ technology’s built-in Graphs &amp; Geometry function and by capturing points in the technology’s built-in Lists &amp; Spreadsheet function.</td>
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<th>MIDDLE GRADES MATH, ALGEBRA 1</th>
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<tr>
<td>375</td>
<td><strong>375 M&amp;M’s Galore - Data Analysis for Middle School Grades Using the TI-73 Explorer</strong></td>
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<tr>
<td></td>
<td>90-Minute Hands-On • Beginner, Intermediate, Advanced • TI-Navigator™, TI-73 Explorer™, TI-Nspire™</td>
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<td></td>
<td>Elizabeth Smith, Episcopal High School, JACKSONVILLE, FL, USA</td>
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<td>Co-Presenter: Sherry Colarusso</td>
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<td>What colors are in your M&amp;M bag? How about your neighbor’s? We will collect our data and aggregate it using the TI-Navigator™ Additionally, we will display and analyze our results. Walk away with an activity you can use in your classroom complete with a PowerPoint presentation.</td>
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### Saturday

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<tr>
<td>376</td>
<td><strong>376 Use TI’s CBR™ 2™ Motion Detector to Convert Your Students’ Motion into Graphs</strong></td>
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<tr>
<td></td>
<td>Karen Cockburn, Havermale High School, SPOKANE, WA, USA</td>
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<td></td>
<td>TI’s CBR™ 2™ motion detector will be used to demonstrate how to capture student motion and make sense of position, time and velocity. Science teachers will love what this data collection device from TI can do for student understanding of motion and graphs. Students will love the action and fun of making graphs from their own movements.</td>
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<tr>
<td>377</td>
<td><strong>377 Bowling, iTunes and Sking: Math that Matters to Kids</strong></td>
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<td></td>
<td>90-Minute Hands-On • Beginner, Intermediate • TI-73 Explorer™, TI-84 Plus</td>
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<td></td>
<td>Charlene Larsen, Creasant View Middle School, SANDY, UT, USA</td>
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<td>Co-Presenter: Jane Martain</td>
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<td>Kid-focused, real-world problems will be used to teach and understand the meaning of linear equations and simultaneous equations. Participants will use the TI-73 Explorer™, TI-83 Plus and TI-84 Plus graphing calculators to build tables on the home screen, create graphs and develop the functions or find the intersection point of the two graphs.</td>
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### Saturday

**2:15pm - 3:45pm**

<table>
<thead>
<tr>
<th>Cumberland A</th>
<th>ELEMENTARY MATH</th>
</tr>
</thead>
<tbody>
<tr>
<td>378</td>
<td><strong>378 Off to Neverland</strong></td>
</tr>
<tr>
<td></td>
<td>90-Minute Hands-On • Beginner, Intermediate • TI-10, TI-15 Explorer™</td>
</tr>
<tr>
<td></td>
<td>Jane Martain, Jordan School District, SALT LAKE CITY, UT, USA</td>
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<td>Co-Presenter: Charette Larsen</td>
</tr>
<tr>
<td></td>
<td>Participants will use non-standard measurement tools to measure distances on maps. They will also create a map from a children’s story, determine distances on their map using non-standard measures, and do other measurement activities (including use of TI’s CBR™ 2™ motion detector, the TI-10 and TI-15 Explorer™ calculators.</td>
</tr>
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### Saturday

**2:15pm - 3:45pm**

<table>
<thead>
<tr>
<th>Cumberland</th>
<th>ALGEBRA 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>379</td>
<td><strong>379 Navigating through Algebra 1</strong></td>
</tr>
<tr>
<td></td>
<td>90-Minute Hands-On • Beginner, Intermediate • TI-Navigator™</td>
</tr>
<tr>
<td></td>
<td>Abigail Hernandez, Trinity High School, TRINITY, TX, USA</td>
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<td>Co-Presenter: Rick Sanchez</td>
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<tr>
<td></td>
<td>Come see how the TI-Navigator™ learning system can enhance your Algebra I classroom. This session will focus on algebra concepts such as linear functions, linear inequalities, transformations, and quadratic functions. Come experience how the TI-Navigator™ system can keep all your students engaged in algebra.</td>
</tr>
</tbody>
</table>

### Saturday

**2:15pm - 3:45pm**

<table>
<thead>
<tr>
<th>Cumberland</th>
<th>GEOMETRY, ALGEBRA 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>380</td>
<td><strong>380 Transformations in the Coordinate Plane using the TI-84 Plus Family and TI-Navigator™ System</strong></td>
</tr>
<tr>
<td></td>
<td>90-Minute Hands-On • Beginner, Intermediate • TI-84 Plus Silver Edition</td>
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<tr>
<td></td>
<td>Margaret Bambrick, Volunteers County Schools, DELAND, FL, USA</td>
</tr>
<tr>
<td></td>
<td>Co-Presenter: Ruth Casey</td>
</tr>
<tr>
<td></td>
<td>Participants will explore transformations of geometric figures in the coordinate plane, then create their own figure and apply those transformations. Opportunities for assessment using the TI-Navigator™ system will be discussed and demonstrated.</td>
</tr>
</tbody>
</table>
This session is focused on developing quick activities with the Cabri® Jr. Geometry App that can be used to introduce, expand or investigate concepts of geometry, such as polygons, circles, special triangles and transformations. The session also ties in the TI-Navigator™ system and Cabri Jr. Geometry App for classroom discussions.

**Participants**
- Miguel Angel López, Tecnológico de Monterrey, CÓRDOBA, MEXICO

**Equipped With**
- TI-Nspire™ technology features for intermediate TI-84 Plus graphing calculator users,
- Including multiple representations of problems, integration of text documents and calculator features,
- Dynamic graphing, two way integration of graphic and spreadsheet/list representations and more.

**Curriculum Areas Covered**
- Geometry

**Prerequisites**
- Beginner, Intermediate

**What will the session cover?**
- Exploration of Cabri® Jr. Geometry App for quick activities in geometry
- Introduction to TI-Navigator™ technology
- Hands-on exercises for geometry concepts using TI-Nspire™ technology

**Length:**
- 90-Minute Hands-On

**Location:**
- Parlor 357

**Time:**
- 2:15pm - 3:45pm

**Audience:**
- Teachers, educators, parents

**Equipment Needed:**
- TI-84 Plus graphing calculator and TI-Navigator™ System
- TI-Nspire™ technology
- Cabri® Jr. Geometry App
- TI-Navigator™ system

**Target:**
- Teachers, educators, parents

**Objectives:**
- To explore quick activities using TI-Nspire™ technology for geometry
- To introduce TI-Navigator™ technology for classroom use

**Expected Outcomes:**
- Participants will be able to create and share quick geometry activities using TI-Nspire™ technology.
- Participants will understand how to use TI-Navigator™ technology in the classroom.

**Co-Presenter:**
- Karie Gladis, Region XIII ESC, AUSTIN, TX, USA
Session Details

Saturday

2:15pm - 3:45pm
Marsalis C
GENERAL INTEREST

393 Virtual Labs Using TI's CBR 2™ and CBL 2™ Data Collection Devices
90-Minute Hands-On • Beginner, Intermediate, Advanced • Apps, CBL 2™, CBR™, TI SmartView™
Richard Snow, Center for Distance Learning and Innovation, PARADISE, NL, CANADA
This session will demonstrate how to use the CBR 2™ motion detector; CBL 2™ data collection device, TI-SmartView™ software and Eliminate LiveView™ technology to conduct a virtual lab. Participants will see the use of Vernier Software & Technology™ EasyData™ software to collect quantitative and exponential data.

2:15pm - 3:45pm
Marsalis E
GENERAL INTEREST, ALGEBRA 1, ALGEBRA 2, CALCULUS, COLLEGE MATH/SCIENCE, GEOMETRY, PRECALCULUS, TRIGONOMETRY

394 Ti-Nspire™ Technology and SMART Board™ Interactive Whiteboards – What a Fantastic Combination
90-Minute Hands-On • Beginner, Intermediate • TI-Nspire™, TI-Nspire™ CAS
Tom Reardon, Fitch High School / Youngstown State University, POLAND, OH, USA
Participants will find out what a Computer Algebra System (CAS) is and obtain hands-on experience using CAS on the TI-Nspire™ CAS handheld. Find out how you can use CAS along with activities developed to help teach difficult concepts in Algebra 1 and 2 classes (as well Precalculus and Calculus) with amazing results. The next frontier is creatively incorporating CAS into the high school mathematics curriculum in the United States - become a pioneer. This session will be presented on a SMART Board™ interactive whiteboard.

2:15pm - 3:45pm
Reden C
PRECALCULUS, ALGEBRA 2, CALCULUS

395 Making Connections with Optimization Problems on Ti-Nspire™ Technology
90-Minute Hands-On • Beginner • TI-Nspire™, TI-Nspire™ CAS
Vicki Carter, West Florence High School, FLORENCE, SC, USA
Participants will use TI-Nspire™ technology to explore several max-min problems, highlighting the connection of the algebraic, numeric and geometric representations of the problem situations. After exploring several problems, participants will create a simple optimization problem on the TI-Nspire™ learning handheld.

2:15pm - 3:45pm
Marsalis D
STATISTICS

396 An Overview of the Statistics Functionality of Ti-Nspire™ Technology
90-Minute Hands-On • Beginner • TI-Nspire™
Glória Barret, Deerfield Academy, DEERFIELD, MA, USA
This session will provide an opportunity for participants to become familiar with the statistics features of Ti-Nspire™ technology. In addition to looking at how TI-Nspire™ technology does familiar statistical computations, special attention will be given to the enhanced functionality of the built-in Data & Statistics function.

2:15pm - 3:45pm
Pryor AB
BIOLOGY, GENERAL SCIENCE

397 "APP-ly" the TI-84 Plus Graphing Calculator to Your Biology Classroom
90-Minute Lecture/Demonstration • Beginner, Intermediate • Apps
Jeff Lukens, Roosevelt High School, SIOUX FALLS, SD, USA
What's hidden in that APPS key on the TI-84 Plus graphing calculator keypad? Come to this session where you will press that key and "APP-ly" the power of APPS to the Biology classroom.

2:15pm - 3:45pm
Bryan-Beeman
CHEMISTRY, ALGEBRA 2

398 Data Sharing in the Science Classroom
Tami Plevin, Burlington High School, BURLINGTON, IA, USA
Co-Presenters: Pat Maturo
Want to increase student participation in your science classroom? Experience how the TI-Navigator™ can provide immediate feedback from your students, help collect and aggregate student generated data, and facilitate the integration of math and science. Vernier Software & Technology™ EasyData™ and pressure sensors will be used.

2:15pm - 3:45pm
Bryan Beeman
BIOLOGY, GENERAL SCIENCE

399 Experimenting with the Vernier Software & Technology™ Dynamics System
90-Minute Hands-On • Beginner, Intermediate • CBL 2™, TI-84 Plus Silver Edition
Lucas Diamond, Pope John Paul II High School, HENDERSONVILLE, TN, USA
This session will focus on two or three standard experiments that can be done with the Vernier Software & Technology™ Dynamics System. It is an excellent session to attend if you have never worked with dynamics carts and would like to learn in a no-stress environment. Participants will use TI's CBL 2™ data collection device with force sensors, low g accelerometers and motion detectors. All of these experiments are from the Vernier publication "Physics with Calculators". Enjoy 90 minutes completely free of friction.

2:15pm - 3:45pm
Sunset Suite 3
ALGEBRA 1, ALGEBRA 2

400 Overcoming TI-Navigator™ System Phobia and Using the System to Organize Your Classroom
90-Minute Hands-On • Beginner, Intermediate • TI-Navigator™
Rebecca Bell, Marble Hill School for International Studies, NEW YORK, NY, USA
Participants will learn strategies for using the TI-Navigator™ system to kick off their class without making students wait. Participants will also take turns “driving the system: Send LearningCheck™ documents to students, collect documents, review data with the Class Analysis feature, and navigate the Activity Center feature.

2:15pm - 3:45pm
Parlor 359
ALGEBRA 2, PRECALCULUS

401 A Beginner’s Look at the Sequence Mode on TI-83 Plus and TI-84 Plus Family Graphing Calculators
Rebecca Caison, Retired, MEBANE, NC, USA
Explore the sequence mode on TI-83 Plus and TI-84 Plus family graphing calculators using real-world applications.

2:15pm - 3:45pm
Parlor 353
GENERAL INTEREST, MIDDLE GRADES MATH

402 But How Did You Do That? Neat Constructions for Modeling with TI-Nspire™ Technology
90-Minute Lecture/Demonstration • Beginner, Intermediate, Advanced • TI-Nspire™, TI-Nspire™ CAS
Stephen Arnold, Compass Learning Technologies, KONWA, AUSTRALIA
TI-Nspire™ and TI-Nspire™ CAS technology offer wonderful tools for geometric approaches to algebraic modeling. This session looks at a range of great activities from TI's online Activities Exchange and takes participants through the steps of building these dynamic models.

4:00pm - 5:30pm
Pegasus A
ALGEBRA 1, ALGEBRA 2

403 TI-Nspire™ Technology in the Algebra Classroom Using the TI-Navigator™ System, Version 4.0
90-Minute Hands-On • Beginner • TI-Navigator™, TI-Nspire™, TI-Nspire™ CAS
Douglas Roberts, Franklin Heights High School, MILLIARD, OH, USA
Co-Presenter: James Kozman
Come see how to use TI-Nspire™ and TI-Nspire™ CAS technology in the Algebra classroom. The use of this educational technology will be tied together using a classroom networking system, the TI-Navigator™ system, version 4.0. Activities will be shown using multiple representations in the Algebra I and 2 classrooms.
Session Details

Session Details

Saturday

4:00pm - 5:30pm
Pegasus B
404 Data Collection and Analysis for Mathematics and Science Classes Using TI's CBR™ 2nd and CBL 2™ Data Collection Devices
90-Minute Hands-On • Intermediate, Advanced • Apps, CBL 2™, CBR™, TI-Navigator™, TI-84 Plus, TI-84 Plus Silver Edition, TI SmartView™
Debra Robinson, Office of Mathematics, CHESTERFIELD TWP, MI, USA
Participant will use TI CBL 2™ and CBR 2™ data collection devices and Vernier Software & Technology EasyData™ software to explore light, temperature, voltage and motion related graphs by collecting, measuring and analyzing real-time data in a motorized, high energy, enriched content related activity. This session will demonstrate how to simulate and facilitate a lab situation during a regular 55-minute math/science classroom setting that will challenge students to extend their thinking by connecting and applying their learning.

4:00pm - 5:30pm
Reunion A
405 A Correlation of TI Graphing Calculator Apps to NCTM Standards and How Apps can be Used to Enhance Student Performance
90-Minute Hands-On • Intermediate, Advanced • TI-84 Plus Silver Edition
Jack Madding, Burkittsville High School, WICHTA FALLS, TX, USA
In this hands-on session, participants will look at a correlation between TI graphing calculator software applications (Apps) and NCTM Standards. A partial list of Apps included in the session are: Algebra 1 Part 1, Algebra 1 Chapter 5, Decimal Defender, Math by Hand, Cabri™ J3: Geometry, Area Formulas, What's My Angle and Probability Simulation.

4:00pm - 5:30pm
Reunion B
406 Fraction Machine – Algebraic Fraction Using CAS and the TI-89 Titanium Graphing Calculator
90-Minute Hands-On • Intermediate • TI-89 Titanium
Bozenna Graham, Wesley College, GLEV Waverley, AUSTRALIA
This session will present a year 10 activity involving algebraic fractions. The activity is based on the TI-89 Titanium graphic calculator and Computer Algebra System (CAS), which can be run as a class activity or a mini-test. The session shows how to incorporate CAS to solve some fraction problems.

4:00pm - 5:30pm
Cumberland L
500 What Can Be Better Than Free?
90-Minute Hands-On • Beginner, Intermediate • TI-84 Plus Silver Edition
Jan Brown, USA Today, SIDUX FALLS, SD, USA
Co-Presenter: Jeff Luikens
FREE - FREE - FREE. A teacher’s favorite 4-letter word. USA TODAY® has teamed with Texas Instruments to produce dozens of free activities for math and science teachers. Come to this session and try an activity or two, and learn how to access all of the others.

4:00pm - 5:30pm
Cumberland F
408 TI: Tricks my Teacher taught me
90-Minute Hands-On • Beginner, Intermediate, Advanced • TI-84 Plus, TI-84 Plus Silver Edition,TI SmartView™
Dana Morse, Skaneateles High School, SKANEATELES, NY, USA
Unlock the advantages of the TI-83 Plus/TI-84 Plus graphing calculator. Come learn how to give students multiple ways to check their work and gain the confidence they need to succeed in mathematics. Reinforce classroom lessons with TI educational technology.

4:00pm - 5:30pm
Cumberland G
409 Investigating Lines with the TI-Navigator™ System
90-Minute Hands-On • Intermediate, Advanced • TI-Navigator™, TI-84 Plus Silver Edition
Deborah Kula, Sacred Hearts Academy, KNOXVILLE, HI, USA
Slopes, y-intercepts and so much more. Experience the excitement and understanding that the TI-Navigator™ system can bring to the Algebra, Precalculus and Calculus class as students build a classroom learning community.

4:00pm - 5:30pm
Cumberland H
410 Algebra, Data and TI-Nspire™ Technology
90-Minute Hands-On • Beginner, Intermediate, Advanced • CBR™, TI-Nspire™
Jerald Murdock, Key Curriculum Press (Author), INTERLOCHEN, MI, USA
Using TI-Nspire™ technology, data collection tools and creative hands-on investigations will enable participants in this session to create interactive, ongoing conversations about mathematics and five necessary strands for successful learning. These investigations and conversations will suggest corrections and adjustments about the mathematics, our solutions and the roles engaging, reasoning, applying, understanding and computing must play for success in Algebra.

4:00pm - 5:30pm
Cumberland J
411 Navigation 102
90-Minute Hands-On • Beginner • TI-Navigator™, TI-84 Plus, TI-84 Plus Silver Edition
Randy Cole, Capital High School, OLYMPIA, WA, USA
Co-Presenter: Corey Baby
This session is the next step after Navigation 101. Come learn more about the TI-Navigator™ system software and go more in-depth so you can go back to your own schools and put what you have learned to use in your classroom.

4:00pm - 5:30pm
Cumberland K
412 Math – Marriage of Mathematics and Meteorology
90-Minute Hands-On • Intermediate, Advanced • TI-84 Plus, TI-84 Plus Silver Edition
Cindy Hawes, Ravenwood High School, BRENTWOOD, TN, USA
Co-Presenter: Ron Hawes
Using data available to everyone, discover the marriage of mathematics and meteorology available to use in the classroom. This session's presenter is a high school math teacher and her husband a meteorologist. Come and explore the marriage of physics and mathematics through meteorology.

4:00pm - 5:30pm
Parlor 362
413 Experiences with Introducing TI-Nspire™ Technology for Teaching Math in the Danish High School
90-Minute Hands-On • Beginner • TI-Nspire™ CAS
Bjørn Felsager, Halslev Gymnasium and HF, HASELEV, DENMARK
Co-Presenter: Brian Olesen
Two pilot-site teachers from Denmark will demonstrate some of the activities that were found useful when introducing TI-Nspire™ technology in a Danish High School – the only one in the country to have switched completely to TI-Nspire™ technology this past year. The goal of this workshop is to give an impression of what kind of new TI-Nspire™ activities can successfully engage students and teachers. One primary focus will be the investigation of relationships between variables using examples from Geometry and Precalculus. No prior experience with the TI-Nspire™ is required.

4:00pm - 5:30pm
Parlor 362
414 TI Products in Teachers Training at Charles University, Prague, The Czech Republic
90-Minute Lecture/Demonstration • Intermediate • TI-Interactive!
Jan Kupsor, Charles University, Fac. of Math. and Phys, PRAGUE, CZECH REPUBLIC
Come learn which TI educational technology products are being used in Teachers Training at the Charles University, Fac. of Math. and Phys. in Prague, The Czech Republic – TI graphing calculators, TI-Interactive®, software, the Cabri² Jr. Geometry App and more are highlighted.
Session Details

Saturday

4:00pm - 5:30pm

415 Visualizing Concepts of Rate of Change with TI-Nspire™ Technology
90-Minute Hands-On • Beginner, Intermediate • TI-Nspire™
Judith Olson, University of Hawaii, HONOLULU, HI, USA
Co-Presenter: Raymond Chan
The dynamic feature of TI-Nspire™ technology’s Grab-and-Move feature provides students with a dynamic learning tool to help them understand the concept of rate of change of various functions. By being able to “grab and move” the points on a graph, students can visualize that the instantaneous rate of change at a point, if it exists, is the slope of the tangent to the curve at that point. Participants will receive hands-on experience using TI-Nspire™ technology and a classroom snapshot where this technology helps promote collaborative discussion.

416 Data Collection Using the TI-73 Explorer™ Graphing Calculator and TI-Navigator™ System
90-Minute Hands-On • Beginner, Intermediate • TI-Navigator™, TI-73 Explorer™
Donna Porter, Kirby High School, MEMPHIS, TN, USA
Co-Presenter: Cassandra Bradley
In this hands-on session, participants will investigate data collection and statistics on the TI-73 Explorer™ graphing calculator through interesting and engaging activities that make learning math fun.

417 Exploring the TI-73 Explorer™ Graphing Calculator and Apps for Math in the Middle Grades
90-Minute Hands-On • Beginner • Apps, TI-73 Explorer™
Kokil Mallory, McKinney ISD, FRISCO, TX, USA
The middle school math years should best be characterized by fun, interesting, and motivating activities that promote learning. In this session, teachers of middle grade math students are welcome to explore first-hand how the TI-73 Explorer™ graphing calculator and its Apps can capture student interest and provide for an engaging and meaningful math experience.

418 Advanced Techniques with the TI-73 Explorer™ Graphing Calculator: Bet You Didn’t Know It Could Do That!
90-Minute Hands-On • Advanced • TI-73 Explorer™
David Young, Fayetteville, FAYETTEVILLE, AR, USA
Come see all the power of the TI-73 Explorer™ graphing calculator as a learning tool to teach mathematics and science. Come get ideas for your classroom, whether for Algebra 2, Precalculus and Calculus classrooms. Participants will receive student worksheets with appropriate teacher notes for all three levels.

419 It is “Hot, Hot, Hot” with the TI-73 Explorer™ Graphing Calculator and Science in Elementary School
90-Minute Hands-On • Beginner • CBL 2™, TI-73 Explorer™
Marsha Burkholder, Westgate Elementary, COLUMBUS, OH, USA
Learn how to use the TI-73 Explorer™ graphing calculator and its CBL 2™ data collection device in the elementary classroom for inquiry science.

420 “Nspire” Your Students with EXCEL-ent Mathematics: Using Microsoft Excel® and TI-Nspire™ Technology’s Lists & Spreadsheet Feature
90-Minute Lecture/Demonstration • Beginner • TI-Nspire™
Robert Kimball, Wake Technical Community College, RALEIGH, NC, USA
Students need to have experience using spreadsheets as tools in mathematics – to solve problems and as an aid in understanding concepts. Using Microsoft Excel® software in the classroom can be rewarding. “Nspire” your students with these spreadsheet capabilities – to inspire educators to use such tools in the classroom. Participants of this session will be given Excel files and TI-Nspire™ (.tns) files to use and will see the power of TI-Nspire™ technology and electronic spreadsheets.

421 Beginning Cabri™ Jr. Geometry Activities
Robert Kinkle, Jobs For the Future, WORCESTER, MA, USA
Co-Presenter: Tim Williams
Come “steer” yourself into a visual demonstration of Geometry. The Cabri™ Jr. Geometry App can help students discover theorems and postulates. Without a computer, the Cabri Jr. App is a dynamic way to understand the components of Geometry. This session will guide participants, even those experiencing the Cabri Jr. App for the first time, with ways to bring more interactive Geometry to the classroom. Reach “deep in the heart” of students. Have no fear, the graphing calculator is here to help students.

422 Ti-Nspire™ and the Dilemma: I Taught It But They Didn’t Learn
90-Minute Hands-On • Beginner, Intermediate • TI-Nspire® CAS
Gail Burral, Michigan State University, EAST LANSING, MI, USA
Some topics are just too tough to teach - at least students find them too tough to learn. How can we use TI-Nspire™ technology to help students make sense of concepts such as area or slope in ways they will remember and be able to use in new situations? We will consider some of the stumbling blocks for learning and examples of activities that can help students move forward in their learning.

423 The Ups and Downs of Max-Min Problems
90-Minute Hands-On • Beginner, Intermediate • TI-83 Plus Silver Edition
Fred Decovsky, Teachers Teaching With Technology, MILLBURN, NJ, USA
Improve student understanding and create an engaging classroom environment by exploring a couple of Max Min problems using the TI-84 Plus graphing calculator, TI-Navigator™ system, Cabri™ Jr Geometry Application (App) and TI-Nspire™ technology to model situations. This problem-solving, standards-based approach can be used in Algebra 1 and beyond.

424 Newton’s Law of Cooling from Algebra 2 through Calculus
Ann Drobnis, Thomas Jefferson High School for Science and Technology, ALEXANDRIA, VA, USA
Co-Presenter: Patricia Gabriel
In this session, participants will collect data using the Vernier Software & Technology™ EasyData™ USB temperature sensor and TI-84 Plus family graphing calculators. Use the data in a variety of activities for Algebra 2, Precalculus and Calculus classrooms. Participants will receive student worksheets with appropriate teacher notes for all three levels.

425 Advanced TI-Navigator™ System for High School Math
David Sword, Lampshire High School, HIGHLAND PARK, MI, USA
This session is not an introduction to the TI-Navigator™ system, but is intended for those who are already using the system in the classroom. Participants will see a variety of sample lessons that can only be done (realistically) using the TI-Navigator™ system.

426 Using TI’s CBL 2™ Data Collection Device to Collect the Sine Curve
Stephen Bismark, University of Georgia/Clarke Central School, MARIETTA, GA, USA
This session will show how to model a sine curve from a real-world structure – a lighthouse. Using a functional lighthouse model, TI’s CBL 2™ data collection device with light sensor, as well as the use of a TI-83 Plus graphing calculator, participants will learn how to collect data, use the sine regression and analyze it.
Saturday, March 1

Session Details

4:00pm - 5:30pm

Parlor 357

PRECALCULUS

427 An Introduction to the TI Nspire™ Handheld for Upper Level Math Classes
90-Minute Lecture/Demonstration • Beginner • TI-Nspire™
Lisa Washburn Holley, Dulles High School, SUGARLAND, TX, USA
Co-Presenter: Nicole Washman
Ever have trouble explaining the ambiguous case triangle when exploring the Law of Sines? Come see how easy it is with the TI-Nspire™ handheld in action. This and other explorations on the handheld will be demonstrated. Participants will receive electronic files that can be used in the classroom.

4:00pm - 5:30pm

Reunion G

ALGEBRA 2, COLLEGE MATH/SCIENCE

428 Enrich Your Algebra Course with Apps and TI-SmartView™ software on the TI-84 Plus Gaphing Calculator
90-Minute Hands-On • Intermediate • Apps, TI-84 Plus, TI SmartView™
Lisa Yocco, Georgia Southern University, STATESBORO, GA, USA
Customize the TI-84 Plus graphing calculator using applications (Apps) and bring Algebra courses to life with TI-SmartView™ software. Apps to be explored include Catalog Help, CellSheet, Inequality Graphing. Transformation Graphing, Simultaneous Equation Solver and Polynomial Root Finder.

4:00pm - 5:30pm

Reunion E

PRECALCULUS, CALCULUS

429 Student Observations of Patterns Using Dynamically Connected Representations on the TI-Nspire™ Handheld
90-Minute Hands-On • Beginner, Intermediate • TI-Nspire™, TI-Nspire CAS™
Douglas Lapp, Central Michigan University, MOUNT PLEASANT, MI, USA
Co-Presenter: Denny St. John
This session will describe student use of dynamically connected representations during an inquiry investigation. The TI-Nspire learning handheld allows various mathematical representations to be linked. These linked representations can then be manipulated to change all representations simultaneously, providing a new vehicle for exploring a sequence of iterated function values under composition. Effects of initial seed value, function parameters, and function characteristics are investigated for an iterated sequence. Student approaches for the specific investigation and the potential for classroom instruction will be discussed.

4:00pm - 5:30pm

Reunion F

ALGEBRA 1, ALGEBRA 2

430 “Connect the Dots” with TI-Nspire™ Technology
90-Minute Hands-On • Beginner, Intermediate • TI-Nspire™
Elizabeth Tucker, Carolina Springs Middle, LEXINGTON, SC, USA
Through engaging real-world activities and capabilities such as multiple representations, come see how TI-Nspire™ technology can help make the Algebra curriculum “connect” for your students.

4:00pm - 5:30pm

Reunion H

GENERAL MATH, ALGEBRA 1, ALGEBRA 2, GEOMETRY, STATISTICS, TRIGONOMETRY

431 The Challenges Found in Instructing All Students to Use the TI-Nspire™ CAS Technology
90-Minute Lecture/Demonstration • Intermediate • TI-Nspire™, TI-Nspire™ CAS
Mumy Bell, Anchor Bay High School, CHESTERFIELD, MI, USA
The presenter will share lessons and activities that have achieved positive results with students when using TI-Nspire™ CAS technology in the classroom.

4:00pm - 5:30pm

Marsalis A

GENERAL INTEREST, CALCULUS, GEOMETRY, PRECALCULUS

432 Beginning with TI-Nspire™ CAS Technology
90-Minute Hands-On • Beginner • TI-Nspire™, TI-Nspire™ CAS
Marian Prince, Half Middle School, SAWYER, MI, USA
This session will use TI-Nspire™ CAS technology to investigate the number and will introduce participants to TI-Nspire’s latest learning handheld. TI-Nspire’s power of multiple representations will also be shown with a classic geometry problem.

4:00pm - 5:30pm

Marsalis C

GENERAL INTEREST, GENERAL SCIENCE

433 Introduction to Research for Middle and High School Students using Vernier Software & Technology™ Probes and TI-84 Plus Graphing Calculator/ Vernier LabPro® Data
90-Minute Hands-On • Intermediate, Advanced • Apps, TI-83 Plus Silver Edition
Cheryl Lindeman, NCCS/MSS/Center Virginia Governor’s School, LYNCHBURG, VA, USA
This session will showcase how Vernier Software & Technology™ physiology and water quality sensors can be used to help students understand data collection and analysis. The Vernier LabPro® and the TI-84 Plus Silver Edition graphing calculator are used as the bridge from math classes to inquiry-based learning about the fundamentals of research. Examples will be shown as to how Vernier physiology labs can be modified to give quick demonstrations designed to spark students’ interest and good questions. The open-ended question approach will be modeled.

4:00pm - 5:30pm

Marsalis E

GENERAL MATH, GENERAL SCIENCE

434 Data Collection Made Easy
90-Minute Hands-On • Beginner, Intermediate
Richard Sorensen, Vernier Software & Technology, BEAVERTON, OR, USA
Co-Presenter: Verity Walters
Graphing calculator data collection has never been this easy. Join this hands-on session to discover how easy it is to collect data using a TI-84 Plus family graphing calculator and Vernier Software & Technology™ EasyData™ software. Explore math and science activities that make use of the Vernier EasyTemp® USB temperature sensor and EasyLink™ USB sensor interface and TI’s CBR™ 2™ motion detector.

4:00pm - 5:30pm

Reunion C

STATISTICS

435 Does Barry Bonds Deserve a Break?
90-Minute Hands-On • Beginner, Intermediate • TI-84 Plus
Eric Sever, Mill Creek High School/Georgia Perimeter College, MOCHTON, GA, USA
Baseball is one of the most statistically driven sports. Participants will use some easily-obtained data to look statistically at topics like salaries, attendance, statistics and more. A variety of statistical topics will be discussed, such as regression and inference. Designed for the beginning or intermediate AP or non-AP statistics instructor.

4:00pm - 5:30pm

Marsalis D

STATISTICS

436 Application of the TI-84 Plus Graphing Calculator in Quantitative Analysis Linear Programming with Simplex Tableaux
90-Minute Lecture/Demonstration • Intermediate, Advanced • TI-84 Plus Silver Edition
Guy Defranco, Biarritz College, LYNCHBOOK, NY, USA
The application of the TI-84 Plus family graphing calculator to linear programming from graphic analysis through the simplex and the dual. Because the TI-84 Plus graphing calculator removes the drudge of calculations, class time can be spent in analytical approaches to verbal problems. Several examples will be supplied.

4:00pm - 5:30pm

Pryor AB

GENERAL SCIENCE, GENERAL MATH

437 Motion Graphs with the TI-Navigator™ System
90-Minute Hands-On • Beginner, Intermediate • TI-Navigator™
Mary Norris, Salem High School, SALEM, VA, USA
Participants will learn how to use the TI-Navigator™ system to help students connect linear graphs with their physical meanings.

4:00pm - 5:30pm

Bryan-Beeman

GENERAL SCIENCE, BIOLOGY, CHEMISTRY, MIDDLE GRADES SCIENCE

438 Teaching Photosynthesis with Technology
90-Minute Hands-On • Beginner, Intermediate, Advanced • CBL 2™, TI-84 Plus, TI-84 Plus Silver Edition
Judy Day, NC State University, RALEIGH, NC, USA
Co-Presenter: Louise Chapman
Learn different ways to teach photosynthesis in the classroom. Hands-on experiments using colorimeter, gas pressure, CO2 and O2 sensors will be explored. Handsouts of different set-ups and options will be provided.
LEPLA – A Web Resource of Learning Materials for Science with Handhelds – Origin, Present and Future

Bogdan Zoltowski, Technical University of Lodz, LODZ, POLAND
Co-Presenter: Lars Jakobson

The LEPLA project (Learning Environment for Physics Laboratory Activities) was originally a European Union project that has been completed. It is now continued within the T³ Science Group in Europe and will hopefully continue growing. LEPLA is a Web-based platform, with laboratory instructions in English, German, French, Italian, Polish and Swedish for more than 30 experimental activities for handheld data collection equipment (TI-83 Plus/TI-84 Plus, TI-89 Titanium/TI-92 and TI-Nspire™ technology). This session will present the aims of the project and hands-on examples of some of the modules at the platform. Also some examples of the continued work to adopt the experiments for TI-Nspire™ technology will be presented.

Assessment using the TI Navigator™ System

Mark Baetz, Salem High School, SALEM, VA, USA
Co-Presenter: Kevin Simms

Teachers are always wondering, “Am I reaching my students?” The TI Navigator™ system supplies teachers with the power to assess each student’s understanding at any given point during a lesson. The Quick Poll and Activity Center features are just two avenues to obtain instant student assessment during a lesson, giving the teacher the ability to make instructional modifications in order to reach every child in the classroom. The system’s Class Analysis feature is another powerful tool that enables the teacher to address the appropriateness of an assessment and determine areas of strengths and weaknesses for individual students.

Managing Calculators and Materials for New Teachers

Elizabeth Ahlgren, Morse High School, LA MESA, CA, USA
Co-Presenter: Paula White Wilson

Managing calculators and instructional materials can be daunting for the new teacher. In this session, we will identify the many ways to organize and manage that make this part of the educator’s job easier and more efficient. We will also discuss common calculator issues that come up in class and answer questions relating to the responsibilities of pre-service and new teachers.

Microsoft PowerPoint® for Math and Science Faculty

Robert Matthews, Design Science, Inc., FREDERICKSBURG, TX, USA

Want to use Microsoft PowerPoint® to help present your lessons, but need a little help with the ‘how to’? Learn how to enter equations and graphs onto your slides, and how to use color and animation to bring the equations to life. We’ll also discuss the key to creating interactive PowerPoint® quizzes and games: action buttons. There will be a free follow-up webinar on March 6 to answer questions and to reinforce techniques learned during the session.
Sunday
Power Session Details
8:00am - 9:30am
Reunion E - F
POWER SESSION

**Shouting Shouting Won't Grow Dendrites:** Techniques for Managing a Brain-compatible Classroom

Dr. Marcia L. Tate, PhD

Have you ever noticed that the same student can travel from one classroom to another and exhibit different behaviors depending upon teacher expectations and management techniques? While we know that not all brains are the same, there are teachers who consistently meet the needs of various brains in a well-managed, proactive classroom. Learn the secrets these teachers already know as they maximize instructional time and minimize disruptions. Participants will establish rituals and routines for a well-managed, proactive classroom environment. Develop a classroom management plan that addresses unique student needs. Learn strategies for managing students who provide teachers with exceptional behavioral challenges, e.g., learned helplessness, attention deficit disorders, oppositional disorders and conduct disorders.

8:00am - 9:30am
Reunion A - C
POWER SESSION

**A Functional Bestiary**

Dr. Dan Kennedy, Baylor School

You know that the greatest integer function is continuous everywhere except at the integers, but do you know of a function with domain all reals that’s continuous only at the integers? I’ve collected several examples over the years of such strange and fascinating functions and have put them into my Functional Bestiary. At this Power Session I hope to be able to exhibit these beasts for your entertainment—and perhaps occasional amazement!

8:00am - 9:30am
Reunion G - H
POWER SESSION

**Secrets of Mental Math**

Dr. Arthur Benjamin

Arthur Benjamin will demonstrate and explain the secrets of rapid mental calculation. Dr. Benjamin teaches mathematics at Harvey Mudd College and is one of the world’s fastest “lightning calculators.” He is also a professional magician and the author of several books, and has received national recognition for his writing and teaching of mathematics. He has presented his mixture of mathematics and magic to audiences all over the world. Professor Benjamin will demonstrate and EXPLAIN: How to multiply numbers in your head faster than a calculator! How to figure out the day of the week of any date in history! How to memorize 100 digits of pi…and other amazing feats of mind!

9:45am - 11:15am
Reunion E - F
POWER SESSION

**Matheatre Presents ... Calculus: The Musical!**

Dr. Marcia L. Tate, PhD

Calculus: The Musical! is a comic “review” of the concepts and history of calculus. It was born as a teaching tool in the presenter’s classroom. He found that setting formulas and rules to music helped his students learn and retain tricky information. “Maxima” and “minima” is an abstract concept to a lot of us, but when sung as a rousing “Car Can” chorus, it’s fun and easy to remember! A blend of sketch comedy, musical theatre and classroom lecture, MATHEATRE has created a performance piece to show that although calculus is used in rocket science, well…it isn’t exactly rocket science.

Using musical parodies that span genres from light opera to hip hop, we introduce and illuminate such concepts as limits, integration and differentiation. With our unique comic style we dramatize some high points of calculus’ history. From Archimedes to Riemann, the quest for the instantaneous rate of change and the area under the curve comes to life through song! Musical tributes to The Beatles, Gilbert & Sullivan, Madonna, Petula Clark and even Eminem are just a few of the artists who have inspired this engaging and educational lesson that is nothing at all like your high school textbooks. Calculus: The Musical! promises to be entertaining to the arithmophobe and the rocket scientist alike.

9:45am - 11:15am
Reunion A - C
POWER SESSION

**TI-Nspire™ – Bringing Inspiration to the Classroom**

Dr. Marcia L. Tate, PhD

Come participate in this informative Q&A session presented by a panel of experts comprised of TI-Nspire product developers, TI Education Technology Consultants, and teachers who participated as a “pilot school” where TI-Nspire was first introduced to faculty, administrators, and of course, students. Come hear what everyone is saying and glean insight into how best to introduce this new technology at your school. Come ready with your questions, we’ve got the answers!

9:45am - 11:15am
Reunion G - H
POWER SESSION

**Inquiry, Data, Understanding, and TI-Nspire™**

Dr. Marcia L. Tate, PhD

Have you noticed how students get derailed by context? Even when they’re good with symbols, students in science and math are often flummoxed by a real-world situation. They have trouble coordinating actual data with their book-learning. Yet working with data is more important now than it ever was. How can we bring data into the classroom to give students the experience they need? During this talk, we’ll look at a variety of sources of data ranging from simulation to video to automatic data collection; we’ll explore the importance of multiple representations; we’ll see how data gives students a context where they can make sense out of what they are learning; and we’ll see how today’s technology makes it all possible.