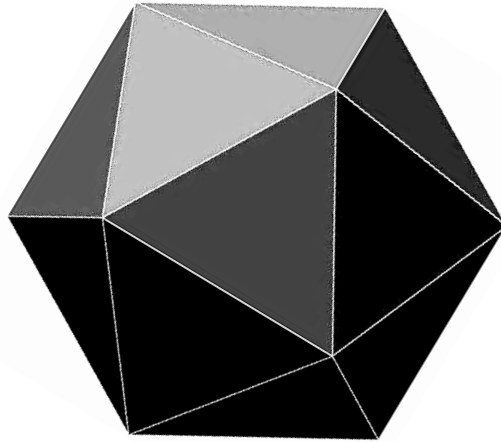


M. A. A.
SUNCOAST REGIONAL
MEETING
XXXI



PROGRAM AND ABSTRACTS

Hillsborough Community College
Brandon Campus

December 1st, 2006

PROGRAM

2:30 – 3:15

REGISTRATION

Sign in and browse the displays from several publishing representatives.

3:20 – 3:40

WELCOME

Dr. Carlos Soto, Brandon Campus President

BSSB Auditorium

3:45 – 4:15

SESSION I

Janet Stevenson – Hillsborough Community College

Updating Lesson Plans and Homework based on Mistakes from Students' Test.

BTEC 103

Heath Horridge and Jeff Hildebrandt – I CAN Learn

Mastery-Based Math Course for Developmental Students

BSSB 206

John Williams – St. Petersburg College

Math Anxiety Revisited

BSSB 208

Shawn Hedman – Florida Southern College

Matching Games

BTEC 105

Rita Aleman, Katrina Errico, and Emily Wing – St. Leo University

The Four and Five Color Theorem

BTEC 104

4:30 – 5:00

SESSION II

Frank Barthel and Students – St. Leo University

Using Games to Teach, Support, and Reinforce Sunshine State Standards in Mathematics

BTEC 103

Gregory McColm – University of South Florida

Two Hundred Algebra Students (Oh My)

BSSB 206

Craig Hardesty – Hillsborough Community College

The Significant Yet Overlooked Role of Personality in the Developmental Mathematics Classroom

BSSB 208

Benjamin Shulman – St. Leo University

Maximum Order of Elements of Symmetric Groups

BTEC 105

Alex Ambrosio – Hillsborough Community College

Arrow's Impossibility Theorem

BTEC 104

5:15 – 5:45

SESSION III

Karen Estes and Lisa Robinson – St. Petersburg College BTEC 103
Service Learning Projects for Elementary Statistics Students

Kenneth Henderson, Jr., Dan Jelsovsky, and Susan Serrano BSSB 206
Florida Southern College
Active Learning and College Algebra

Joann Kakascik – Hillsborough Community College BSSB 208
Game Based Learning and Reviewing Using the Computer

David Rose – Florida Southern College BTEC 105
Coining a Sample

Jianqiang Zhao – Eckerd College BTEC 104
Renormalization of Multiple q -zeta Functions

6:00 – 6:30

SESSION IV

Brooke Quinlan – Hillsborough Community College BTEC 103
Improving Student Success with Online Homework

Jacci White and Monika Vo – St. Leo University BSSB 206
Alternative Delivery Methods for Remedial Algebra

Mike Mears and Jana Bryant – Manatee Community College BSSB 208
Creating a Community in the Classroom, Engaging Students, and the Golden Ratio: Advice Your Grandmother Failed to Tell You

Li Zhou – Polk Community College BTEC 105
Get The Classroom Door, It's Dominoes

Gwendolyn Walton – Florida Southern College BTEC 104
Application of Markov Chain Usage Models to Describe Long – Run Behavior of Stochastic Systems

6:45 – 7:30

PLENARY SESSION

BSSB Auditorium

James (Jim) Wysong Jr. – Hillsborough Community College
A Brief Natural History of Mathematics

7:40 – 9:00

DINNER & ENTERTAINMENT

BADM 116–117

By Reservation Only

ABSTRACTS

SESSION I

Janet Stevenson – Hillsborough Community College – Updating Lesson Plans and Homework based on Mistakes from Students' Test.

We will look at the mistakes made by five students on a test and change lesson plans and the assigned homework to help the next term of students master the material with a higher average score.

Heath Horridge and Jeff Hildebrandt – I CAN Learn – Mastery-Based Math Course for Developmental Students.

I CAN Learn is a computer based program that serves as the full course curriculum for pre-algebra, beginning algebra, and intermediate algebra. The program utilizes video instruction, guided practice, and mastery tests to allow students to spend as much or as little time as necessary to show mastery and pass the course.

John Williams – St. Petersburg College – Math Anxiety Revisited.

Math Anxiety is discussed along with treatments and advice for instructors. The correlation between math achievement and math anxiety is examined. MIT Professor Shane Fredrick's cognitive reflection test (CRT) is presented and given to audience. Studies are presented and a recommendation is made.

Shawn Hedman – Florida Southern College – Matching Games.

We consider a simple game of chance. A player reaches into a bag containing green chips and blue chips and blindly removes m chips (for some natural number m). To win, all m chips must be of the same color. We discuss the number of green and blue chips required to make this a fair game.

Rita Aleman, Katrina Errico, and Emily Wing – St. Leo University – The Four and Five Color Theorem.

In this session, we will present a short video we created on the Four and Five Color Theorems. In addition, we hope to discuss how the Four Color Theorem works.

SESSION II

Frank Barthel and Students – St. Leo University – Using Games to Teach, Support, and Reinforce Sunshine State Standards in Mathematics.

The students were given an assignment to create such a game to replace the lowest grade they received on a MAT 128 test this semester. They were to select a Standard and then create a game for Prek-Grade 2 or Grade 3 thru 5 could use to enhance there understanding. I have contacted Ms.Lynn Pabst, Principal of San Antonio Elementary, about these games and she was very enthusiastic and even asked If my students would voluntarily contribute the games for her students to use. Along with the game, they are to write a one page paper describing the age, standard, and variations of the game. They were also asked to create a power point presentation as a commercial to represent their game. After their demonstration I would like to talk about how the idea has progressed.

Gregory McColm – University of South Florida – Two Hundred Algebra Students (Oh My).

USF has new college algebra classes of 200 students each, in which we teach students what they theoretically learned in high school. The ultimate goal would seem to be: passing Calculus. So the question is: how does one get students to actually *do* (as opposed to just watch) mathematics?

Craig Hardesty – Hillsborough Community College – The Significant Yet Overlooked Role of Personality in the Developmental Mathematics Classroom.

As educators, we are perpetually discussing how we can improve outcomes, especially at the developmental level. One huge factor in success is understanding personality dynamics in the classroom. Unfortunately, this factor is often dismissed and overlooked. This session will offer a multimedia presentation of data on the similarities and differences in personality types among students and instructors of developmental mathematics. We will discuss teaching strategies and share classroom experiences.

Benjamin Shulman – St. Leo University – Maximum Order of Elements of Symmetric Groups.

In this session, we will explore the computation of the maximum orders of permutations in arbitrary symmetric groups.

Alex Ambrosio – Hillsborough Community College – Arrow's Impossibility Theorem.

There are many ways to resolve elections. One might expect that most of them are fair. Surprisingly, Kenneth Arrow, after developing a reasonable set of precisely-defined fairness criteria, proved that no method of resolving elections could satisfy them. We present a more recent proof of Arrow's Impossibility Theorem by John Geanakoplos.

SESSION III

Karen Estes and Lisa Robinson – St. Petersburg College – Service Learning Projects for Elementary Statistics Students.

Service learning projects provide students with an opportunity to apply knowledge gained in the classroom, specifically Elementary Statistics, and to benefit the school or community. This session will present the results of one service learning project that assessed the needs and opportunities for volunteerism in North Pinellas County, Florida.

Kenneth Henderson, Jr., Dan Jelsovsky, and Susan Serrano – Florida Southern College – Active Learning and College Algebra.

Florida Southern College is a part of an NSF grant studying a modeling-based active learning approach to College Algebra. We will discuss the grant and our experiences with this type of approach.

Joann Kakascik – Hillsborough Community College – Game Based Learning and Reviewing Using the Computer

Everyone loves to play games and have fun! To enhance learning, the use of the computer is explored to help students learn mathematical material. Familiar games, such as “Hollywood Squares” and “Who Wants to be a Millionaire”, are tailored to preview and review topics covered in class.

David Rose – Florida Southern College – Coining a Sample

We answer the question of how a fair coin may be used to randomly select one of n objects.

Jianqiang Zhao – Eckerd College – Renormalization of Multiple q -zeta Functions

The special values of multiple Euler–Riemann–Zagier zeta function have significant number theoretical meanings. The double shuffle relations are crucial for our understanding of the theory. But at poles we need to renormalize these values. Recently, we have discovered their q -analogues. We are going to study the renormalization of these q -analogues.

SESSION IV

Brooke Quinlan – Hillsborough Community College – Improving Student Success with Online Homework

Since 2005, I have required online homework using MathXL software in my prealgebra and college algebra courses. The results have been astonishing. The multimedia resources and immediate feedback provided while working exercises has resulted in students' better understanding of the content and improved overall grades with lower withdrawal rates.

Jacci White and Monika Vo – St. Leo University – Alternative Delivery Methods for Remedial Algebra

In this session, a model for combining Introductory and Intermediate Algebra will be explored. This model focuses on the administrative aspects of the course such as contact hours, credit hours, instructional compensation, grading, and SACS requirements since the content remains similar to the traditional mathematics content at this level.

Mike Mears and Jana Bryant – Manatee Community College – Creating a Community in the Classroom, Engaging Students, and the Golden Ratio: Advice Your Grandmother Failed to Tell You

The speakers will help fill in the gaps of information that your grandmother left out. Advice on building a community in the classroom, enhancing student engagement, and even a few lesser known facts about the Golden Ratio. This talk is well worth a fraction of the registration cost!

Li Zhou – Polk Community College – Get The Classroom Door, It's Dominoes

Tiling rectangles by dominoes is an interesting but elementary problem. This talk starts from an AMATYC Contest problem and ends on a problem I proposed in the *Amer. Math. Monthly*. The content of the talk is relevant and understandable to pre-calculus teachers and students.

Gwendolyn Walton – Florida Southern College – Application of Markov Chain Usage Models to Describe Long-Run Behavior of Stochastic Systems

Discrete-parameter, finite-state, time-homogeneous, irreducible Markov chain models are often used to describe long-run behavior of stochastic systems. We summarize and illustrate some published mathematical results concerning convergence and sensitivity of these models and discuss some potential impacts of isolated subsets of states within a Markov chain model.

PLENARY SESSION

James (Jim) Wysong, Jr. – Hillsborough Community College – A Brief Natural History of Mathematics

The quantification of the natural world is an integral part of the process of scientific inquiry, but can mathematics itself be investigated as a natural phenomenon? What is the relationship between math and the mind? Does the symbolism of numbers differ fundamentally from that of the alphabet? Is mathematics our best and only hope to explore an objective reality? History shows that the development of increasingly sophisticated counting and calculating systems has paralleled the rise of civilization and technology. Were these events made possible by a genetic change in prehistory that endowed us with a capacity for numeracy? These are some of the questions and topics that will be explored in this presentation – an opportunity to look at math from a different perspective.