Words that Count: Writing Effective Abstracts

UTA Writing Center

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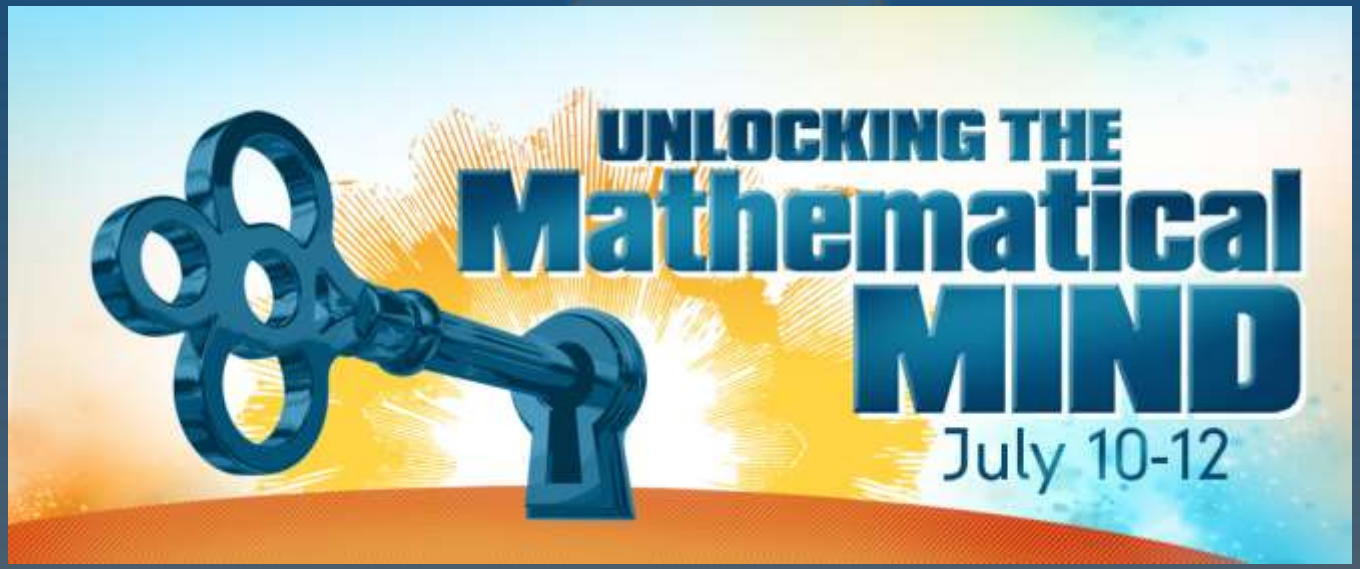
UNLOCKING THE
Mathematical
MIND
July 10-12

General Purpose

- Accuracy
- Brevity / Concise [460 ch]
- Clarity
- Self-Contained*

http://www.indiana.edu/~wts/pamphlets/abstracts.shtml
http://www.itff.org/Lib.Bib/HowToWriteAbstracts.html

General CAMT

- Program consists of approximately 750 sessions
- Content and pedagogy appropriate for K-12 mathematics teachers
- A program committee selects sessions most appropriate for the conference

General CAMT

- sessions involve hands-on learning activities that teachers can use in the classroom
- Effective use of manipulative materials in the classroom is an important
- Use of technology in classroom instruction

http://camtonline.org/about/about/

General CAMT

- **Titles** should be short and eye-catching. (60 chs)

- **Descriptions** should be accurate; complete sentences; use correct grammar. Descriptions that are too long for the program book will be edited to fit the space allowed.

http://camtonline.org/about/about/

Elimination Criteria?

Program committee will have a formal review process by which sessions will be accepted or rejected based on review criterion.

Title & description are very poorly written
Description is not clear
Session is not relevant
Content is outdated
Content not feasible in allotted time
Description is too commercial

Examples:

- *Using Geometer's Sketch Pad to examine whether the SSA condition in Euclidean geometry is always ambiguous.*
- In this presentation I will share a Geometer's Sketch Pad activity that uses the dynamic capabilities of the software to explore the situation in which two triangles have two sides of one congruent to two sides of the other, and a non-included angle of one congruent to a corresponding angle of the other (the "ambiguous" SSA condition). The students use GSP to examine and conjecture when this is not an ambiguous condition and why. This activity uses several nice features of GSP such as tables, sliders, and the calculator and can also be extended to explore some of the other standard congruence theorems from Euclidean geometry. (628)

They Gave Me The Board, Now What Do I Do With It?

- This session will be a demonstration of how to use an interactive board in the math classroom from the basics to intermediate level. (132)

A Non-linear Least Squares Estimator of Buhlmann Credibility.

- It is well known that Buhlmann credibility estimator is a linear least squares estimator. In this talk, a non-linear least squares estimator is used to determine the pure premium for a group of insurance contracts. A numerical example demonstrates this algorithm.(262)

Words Are No Problem: Developing Math Vocabulary

- Vocabulary research points to clear strategies teachers can use with students to help them read and retain difficult key mathematics terms. This highly interactive workshop will provide teachers with an understanding of what it means to "know" a word, what doesn't work with older students in developing vocabulary, and which effective strategies increase a student's word power. Hands-on practical activities will be modeled, and detailed handouts will be provided. (468)

A Mathematical Model of Harbor Seal Haul-out

- Harbor seals (Phoca vitulina) haul out in response to various environmental factors such as tide, current, time of day, wind, and surf. Mathematical modeling techniques are useful for determining which environmental factors are important and for predicting the number of seals that will haul-out in a given set of environmental circumstances. We counted the number of hauled-out seals hourly for 16 hrs per day over two 14-d tidal cycles at a site in Washington State. We constructed a suite of alternative mathematical models based on different combinations of environmental factors, parameterized each model, and applied information theoretic model selection techniques. The best model contained the environmental factors tide, current, and time of day and explained >45% of the observed variability. The results of this study are site-specific, but the methods used are portable and useful for researchers and wildlife managers interested in monitoring haul-out or population trends over time as mandated by the Marine Mammal Protection Act. (1,047)

Mental Arithmetic

- Some of us are a part of a generation that never were faced with making a calculation without a use of a hand-held calculator. As a result, many of the mental techniques in making either exact or approximate calculations have been lost to technological advances. This is not to disagree with the use of calculators (I literally love my calculator), but only to bemoan what seems to be lost at the expense of our progress. Memory work, normally expected in our grade schools, has diminished to the point where students in our college mathematics courses don't know their times tables. Lack of that fingertip information is the prime cause of frustration and failure in the elementary pre-algebra courses that now dominate, in number, the math courses that are taught as college courses.

- This talk is meant to introduce the average math students [to] a new way of approaching the task of mathematical calculations as well as to inspire the more advanced students by integrating algebraic techniques with these calculations without the use of the calculator. (1,057)

What Is This e Thing?

- The common answer that "*e* is approximately 2.718" says little about the nature of one of the most important numbers in mathematics. This talk will begin by examining numerical and geometric interpretations of *e*. We will then look at a proof of the irrationality of *e* (short and sweet), briefly outline a proof that *e* is transcendental (the full proof is really sweet but not short – an opportunity to experience a complete proof will be offered), and end with a discussion of the tantalizing question "Is *e* normal?" (sweetest of all, but maddeningly frustrating…). (566)

The Mathematics of Apportionment

(How the first president of MAA teamed with a U.S. Census Bureau Chief Statistician to take on Thomas Jefferson, Alexander Hamilton, James Dean, and Daniel Webster.)

- his talk will introduce various methods used to make "fair" apportionments. Then we will discuss the methods used throughout the history of the U.S. to decide how many representatives each state should have in Congress. We will also try to address the question whether the current method is biased.(300)

What's the Point?

- Most of us take decimal fractions for granted and may think of them as nothing more than a device for simplifying computations. Indeed that was the primary reason they were developed, but a close look reveals that they influenced 17th century mathematicians' understanding of number, variable, the continuum and the development of calculus. In this talk we begin with the calculus of Newton and Leibniz, then travel back to the analytic geometry of Fermat and Descartes, ending at Simon Stevin's 1585 publication "L'arithmétique" and its appendix "De Thiende" (The Art of Tenths), with side trips to contributions from the Greeks, the Arabs and wherever else the road takes us. (683)

Conceptual Understanding of Growth and Decay

What is ***BIG?*** What is *SMALL?*

- With the importance of big data in the real world, comprehension of scale is an important tool for students. This hands-on session will feature a play-dough activity that can be used to develop students' conceptual understanding of the power of exponents. It also provides students a look into the world of mathematical research and what opportunities exist for students who pursue mathematics beyond high school.(683)

http://www.uta.edu/math/gk12/Shared_Abstracts.html