17th Annual Kansas City Regional
MATHEMATICS
TECHNOLOGY
EXPO

at the Science Center, Rockhurst University, Kansas City, MO
Friday and Saturday, October 5 and 6, 2007

Schedule of Events and Abstracts

We thank Rockhurst University for their generous hospitality in providing the lecture hall, classrooms, and exhibitor area, as well as computers, Internet connections and audiovisual equipment. We thank the Rockhurst students and faculty, who have given up their classrooms so the EXPO can take place.
Our thanks also go to the following individuals from Rockhurst for their technical support of the EXPO:
Mike Marshall, Network Administrator; and Mike Stanclift, Network Analyst.   We also thank
Kimberly Roberts, Science Division Administrative Assistant, for her work on behalf of the EXPO.

We thank the Kansas City Professional Development Council (KCPDC) for sponsoring many EXPO participants. We thank Johnson County Community College for funding paper and printing for
EXPO mailings, the program booklet, and EXPO packet information, and we thank
William Jewell College for funding paper and printing of promotional mailings.

Registration in the lobby of the Science Center
Friday, 8:00 a.m. – 1:45 p.m., and Saturday, 8:00 a.m. – 11:00 a.m.

Complimentary Continental Breakfasts
Continental breakfasts are available both Friday and Saturday mornings in the registration area,
sponsored in part by Houghton Mifflin, McGraw Hill, and Pearson (Addison Wesley and Prentice Hall).

Lunches
The Friday buffet is $8.50 a person and the Saturday box lunch is $7.50 a person. Lunches were ordered
with pre-registration, but there may be some available for purchase at the EXPO registration table.

Conference Lounge, Room 206, Friday, 10:15 a.m. – 3:30 p.m.; Saturday, 8:00 a.m. – 1:45 p.m.
Extra copies of handouts from talks will be placed in the Conference Lounge. Internet access is available.

Textbook, Hardware, and Software Exhibitors: Friday, 8:00 – 2:45 p.m.; Saturday, 8:00 a.m. – 1:00 p.m.
Bedford, Freeman, Worth; Hawkes Learning Systems; Houghton Mifflin; McGraw Hill;
Pearson Addison Wesley; Pearson Prentice Hall; Thinkwell; Wiley; and MAA books
(Not all exhibitors will be present on Saturday.)

Door Prizes:
We thank the following companies that have donated door prizes
to be given away following the Keynote Address and the Invited Address:
Bedford, Freeman, Worth; Design Science; Hawkes Learning Systems;
Mackichan; Minitab; and Texas Instruments

NEW! Earn 1 hour of graduate credit through the UMKC School of Education Continuing Education.
Sign up at the EXPO Registration Table.

FRIDAY, October 5, 2007

Welcome and Introductions
Friday, 8:30 a.m.
Room 115

Richard Gill, 2007 EXPO Group Chair, Blue Valley High School, Stilwell, KS
Rev. Thomas B. Curran, O.S.F.S., President of Rockhurst University, Kansas City, MO

SESSION 1 – Keynote Address
Friday, 8:30 a.m. – 9:50 a.m.
Room 115

The Weapon of Choice
Bruce Yoshiwara
Professor of Mathematics
Los Angeles Pierce College, Woodland Hills, CA

Tools are designed to amplify our ability to do work. Tools increase our leverage, allowing us to accomplish more with the same amount of effort. Unfortunately, a tool misused can cause damage, and powerful tools can cause great damage. We have an expanding arsenal of technological tools to help our students learn mathematics. In this talk we consider some of the things that have worked (e.g. web-based homework), some of the things that have failed (e.g. web-based homework), and some new things that look promising (e.g., web-based homework?) I hope to include experiences from a July 2007 workshop, "Better Practices for Mathematics on the Web."

http://www.piercecollege.edu/faculty/yoshibw

Door prizes will be awarded directly following this address.

SESSION 2
Friday, 10:00 a.m. – 10:45 a.m.

2A.　　　*Math and Physics for Video Game Developers*
Room 203　**Steve Wilson and Douglas Patterson, Johnson County Community College,**
　　　　Overland Park, KS
　　　　The presenters will share their experiences in the design, implementation, and first semester of team teaching a beginning math and physics course for aspiring video game developers. Impetus for the course arose from the interests of the computer science department in this exploding new field. After agreeing upon a 4-credit hour required course, with college algebra and C++ prerequisites, the CS department allowed complete liberty in course design. Current demands of the industry, course content, computer programming, student success, and future directions will be discussed. http://staff.jccc.edu/swilson, http://staff.jccc.edu/dpatter/
　　　　Presider: Keith Brandt, Rockhurst University, Kansas City, MO

2B. ***NUMB3RS: Using Markov Chains for Modeling in the Classroom***
Room 205 ***(As seen on TV)***

Chuck Pheatt and Jorge Ballester, Emporia State University, Emporia, KS
The authors will present a number of strategies and activities that address using Markov chains to model both discrete and continuous systems. They will illustrate how available computational tools such as Maple, Matlab and Excel may be easily used in the classroom to allow students access to this powerful technique. Also provided are a number of examples using games as examples for classroom discussion of Markov chains. In the game context, Markov chain techniques, terminology and results are made relevant and entertaining.
http://pheatt.emporia.edu
Presider: Martha Haehl, Metropolitan Community College – Penn Valley, Kansas City, MO

2C. ***COMMERCIAL DEMONSTRATION:***
Room 302 ***In-Seat, Hybrid, Online Learning: Choosing the Best Integrated Technology***
10:00 a.m. – 10:45 a.m.

Steve Tucker, Metropolitan Community College – Blue River, Independence, MO, and Cathy Riley and Tony Weber, McGraw Hill
Over the last few decades, education has seen an explosion of instructional research, an escalating range of delivery methods, and rapidly rising expectations from students and instructors alike. This expanse of possibilities can be both intimidating and exhilarating. You can go anywhere; but who's got the map?

This session will help you map your way to success with changing technologies. See the demonstration of technology solutions from McGraw-Hill. View cutting edge technology that offers innovative learning and enhanced course management. As a student in this session you will witness a complete range of online solutions, including the most comprehensive, engaging, thought-provoking online courses available in the market. Get ready to see education redefined for online, hybrid, or in-class courses.   http://mhhe.com
Presider: Libby Corriston, Johnson County Community College, Overland Park, KS

2D. ***CPS Continued: Record Keeping and Using the CPS to Improve Instruction***
Room 306 **Richard Gill and Matt Ortman, Blue Valley High School, Stilwell, KS**
With the Classroom Performance System, teachers can collect data on student performance on formative and summative assessments. Blue Valley has 4 classroom sets of "clickers" and is using them as part of school improvement. Last year, the presenters gave a preliminary report on how they anticipated using CPS. This session will present data supporting the effectiveness of the system and the effect it is having on student learning in the mathematics classroom. The session will include a short demonstration of the system, but will not address how to use the system.
Presider: Kathy Reid, Kansas State University, Manhattan, KS

SESSION 3   *Exhibitors*
Friday, 10:45 a.m. – 11:30 a.m.
Lobby &   This time is provided especially so that EXPO participants will have a chance to visit
Room 206   the Exhibitors in the lobby of the Science Center and also to visit the Conference Lounge, Room 206, where extra handouts from EXPO sessions will be located, and Internet access is available. The Exhibitors Area and the Conference Lounge will also be open at other times during the EXPO.

SESSION 4

Friday, 11:30 a.m. – 12:15 p.m.

4A.   *Mini-Workshop:*

Room 203   *Teaching Geometry Using Geometer's SketchPad – Introductory Techniques*

Rick Silvey, University of Saint Mary, Leavenworth, KS

This hands-on workshop will demonstrate the use of Geometer's SketchPad as a pedagogical tool for teaching geometry. SketchPad utilizes dynamic construction and exploration software that enables students to explore and understand mathematics in Euclidean and non-Euclidean geometries, algebra, trigonometry, precalculus, and calculus. In this workshop, participants will use SketchPad to construct basic geometrical objects and investigate transformations. This workshop is intended for those educators of high school or college mathematics who would like an introduction to the capabilities of Geometer's SketchPad.

Presider: Uwe Conrad, Cowley County Community College in Wichita, Wichita, KS

4B.   *DISCUSSION: What Technology Do You Keep Coming Back To?*

Room 205   **Moderators:**

Libby Corriston, Johnson County Community College, Overland Park, KS, and Richard Gill, Blue Valley High School, Stilwell, KS

As mathematics educators, we have experienced a multitude of exciting innovations in technology. Calculators could originally do only four basic functions and now can do symbolic manipulation. We've seen similar growth in the use of web pages and the internet, and in dynamic software programs and on-line homework of many varieties. Now there are i-Pods, PDA's and who knows what other devices that have come out since the writing of this abstract. In this discussion we will share with each other what technology we feel has made a tremendously good impact on our teaching of mathematics, and that, at least for now, we would not want to be without. The goal is not to come to a consensus in this discussion, but to share what and why! Come join us as we celebrate "the good stuff," the technologies that have made a difference in how mathematics is taught.

4C.   *COMMERCIAL DEMONSTRATION: Motivate Students to Learn Mathematics*

Room 302   *by Using Software*

Merideth Thomerson, Hawkes Learning Systems

Discover the benefits of using interactive software in teaching and learning mathematics. Hawkes Learning Systems promotes grade improvement and motivates students by providing tutorials, unlimited practice, intelligent feedback, and mastery-based homework assignments. On its own or as a supplement, it is ideal for all types of learning environments – from traditional lecture classes to distance, online, and self-paced courses. Come see a demonstration of our state-of-the art test generator, online grade book and student courseware! www.hawkeslearning.com

Presider: Kathy Reid, Kansas State University, Manhattan, KS

4D.   *DISCUSSION: Online/Hybrid Classes: Panacea, Disaster, or Good Pedagogy?*

Room 306   **Moderators:**

Joe Yanik, Emporia State University, Emporia, KS, and Marian VanVleet, University of Saint Mary, Leavenworth, KS

Colleges and universities are offering ever more courses online or in a hybrid format (combination of live and on-line). Some require that each department offer at least one course in that format. High schools may soon be moving in that direction, too. We invite those of you who have taught an online/hybrid course to come and share your insights and experiences, and we invite those considering such courses to come and hear what the "experts" have to share.

LUNCH
Friday, 12:15 p.m. – 1:30 p.m. in Massman Hall

SESSION 5
Friday, 1:30 p.m. – 2:15 p.m. for 5A and 5D; and 1:30 p.m. – 3:15 p.m. for 5B, 5C, and 5E

5A.
Room 125

Folding Conic Sections
1:30 p.m. – 2:15 p.m.
Bruce Yoshiwara, Los Angeles Pierce College, Woodland Hills, CA
By making appropriate simple creases in a piece of ("patty") paper, we can create excellent approximations to parabolas, ellipses, and hyperbolas. Locus of points descriptions of the conics explain why the folding works, and the folding activity also leads to a calculus-free derivation of the reflection properties of conics. Applications of the reflection properties are given, as well as Geometer's SketchPad files (with instructions) to illustrate the conics produced by paper folding.
Presider: Uwe Conrad, Cowley County Community College in Wichita, Wichita, KS

5B.
Room 203

COMMERCIAL DEMONSTRATION AND WORKSHOP:
Build Your Own Custom eHomework Web Page in Less Than 1½ Hours
1:30 p.m. – 3:15 p.m.
Steve Tucker, Metropolitan Community College – Blue River, Independence, MO, and Tony Weber and Cathy Riley, McGraw Hill Publishing
Would you like to be involved in educational transformation? How would you like to never grade a homework paper again? Do you have favorite math problems that you wish were available whenever a textbook changes? Are you deciding to learn something new or retire? Are you a visual or tactile learner?

If you answered yes to any of the above questions, this session will benefit you. Over the last few decades, education has seen an explosion of educational technology, an escalating range of delivery methods, and rapidly rising expectation from students and instructors alike. This expanse of possibilities can be both intimidating and exhilarating.

A discussion will take place as to what works and does not work when integrating eHomework. By the conclusion of the "hands-on" session, the participants will have built their personal Web Site that will be at the forefront of innovation, offering the most comprehensive, and thought-provoking Internet solutions available today which will engage students and save prep time.
http://mhhe.com
Presider: Joe Yanik, Emporia State University, Emporia, KS

5C.
Room 205

WORKSHOP:
Biocalculus Computer Laboratory Projects Using Excel and MATLAB
1:30 p.m. – 3:15 p.m.
Timothy Comar, Benedictine University, Lisle, IL
Aspects of biological research are becoming more quantitative, and hence there is a need to introduce future life science researchers to a greater array of mathematical and computational techniques and more sophisticated mathematical reasoning. Presenting quantitative approaches to biological problems to *all* biology majors, not just those who intend to pursue research careers, provides these students with a wider range of tools and can

better motivate the mathematics.   This presentation addresses the integration of biological content into courses at the calculus level. The reason for focusing on calculus is that it is widely taught to science majors early in their undergraduate careers, in institutions ranging form research universities, to small liberal arts colleges, to two-year institutions. Participants will work on Excel and MATLAB computer laboratory projects used in the biocalculus courses at Benedictine University and College of DuPage. http://www.ben.edu/faculty/tcomar/index.htm
Presider: Jorge Ballester, Emporia State University, Emporia, KS

5D.   *Using OTTER, an Automated Reasoning Program, to Connect Logic Topics in*
Room 302   *Discrete Mathematics*
1:30 p.m. – 2:15 p.m.
Daniel Nohl, Benedictine University, Lisle, IL
The purpose of this demonstration is to connect logic principles found in a discrete mathematics course with automated reasoning, a computer science topic. Using the automated reasoning program, OTTER, the solutions to various types of logic problems found in discrete mathematics textbooks will be presented. It will be shown how logic problems involving predicate calculus and proof may be converted to a form for input into the program. The result will be a statement-by-statement proof for those problems in which a proof exists. Inferencing by resolution, proof by contradiction, DeMorgan's Laws, and converse and inverse errors will all be discussed in the context of the automated reasoning program. http://www.ben.edu/faculty/dnohl/index.asp
Presider: Keith Brandt, Rockhurst University, Kansas City, MO

5E.   *WORKSHOP: Using Multiple Representations to Teach Mathematics Using the*
Room 306   *TI-Nspire Calculator*
1:30 p.m. – 3:15 p.m. or later if desired by the participants
Mike Koehler, Blue Valley North High School, Overland Park, KS
TI-Nspire, the latest in graphing technology from Texas Instruments, will be introduced and explored during the workshop. Teachers will get hands-on experience with this new technology. Enhanced graphing capabilities of the calculator combined with easy-to-use computer features distinguish TI-Nspire technology from traditional graphing calculators. Unique TI-Nspire features include the ability to: see multiple representations of a problem, link representations of a problem to see how changes to one will affect others, use "Grab-and-move" graphed functions in real time to observe relationships and patterns, and use built-in interactive geometry capabilities.
Presider: Ron Palcic, Johnson County Community College, Overland Park, KS

SESSION 6
Friday, 2:30 p.m. – 3:15 p.m.

6A.   *Add Game Show Excitement to your Classroom, Using CPS Challenging Boards*
Room 125   **Uwe Conrad, Cowley County Community College in Wichita, Wichita, KS**
Have you ever had a class that was a "participation nightmare" or are you simply looking for another way to get your students excited about the course material? This presentation might just be what you are looking for. CPS (Classroom Performance System) Challenging Boards are a fun and versatile way to get your students involved and excited about the course material. When was the last time you heard a student shout, "Give me Graphs and Charts for fifty," or "Give me Transformations for twenty"? The presenter will demonstrate how to incorporate the spirit of friendly competition into your curriculum through a multitude of question formats including JPEG's, GIF's, audio, video, and EXCEL output.
Presider: Carl Anderson, Johnson County Community College, Overland Park, KS

| 6B. | *Mini-Workshop: Enriching Precalculus with CBR and CBL Data* |
| Room 302 | *Collection Explorations* |

Brian Balman, Johnson County Community College, Overland Park, KS
Many students struggle to make connections between real-world events and the mathematical models we use in Precalculus. The CBR can be used effectively to help connect an object in motion to a graph and an equation. The CBL can be used to connect time and temperature or light intensity and distance in ways that bring functions to life. Participants will learn how to set up and use the CBR and CBL to generate data sets modeled by polynomial and rational functions.
Presider: Brenda Reed, Lincoln University, Jefferson City, MO

POST-SESSIONS for KAMATYC and MOMATYC

Friday, 3:30 p.m.
Room 203   MOMATYC – informal meeting
Room 205   KAMATYC – informal meeting
(Interested KAMATYC and MOMATYC participants will go to supper together after the meetings.)

* *

SATURDAY, October 6, 2007

Welcome and Introductions
Saturday, 8:30 a.m.
Room 115
Richard Gill, 2007 EXPO Group Chair, Blue Valley High School, Stilwell, KS

SESSION 7 – Invited Address
Saturday, 8:30 a.m. – 9:50 a.m.
Room 115

Using Animation Software to Engage Youth in Mathematics-related Careers
Jere Confrey
North Carolina State University, Raleigh, NC

Students are immediately attracted to graphics, video games and cartoon animations. Can these be used to engage students in mathematics? To explore this question, math educators, software architects and games designers designed *GraphsNGlyphs*, an animation environment that permits students to build animations while learning the mathematics concepts behind the designs. We refer to this type of software as transitional professional software. In the talk, I will describe the software and the summer workshops for urban children in which children learned about positive and negative integers, graphing, measurement, similarity, and the use of a variety of transformational tools. I will share some of the children's animations and video of how they explored mathematical ideas in the context of animation.

http://ced.ncsu.edu/mste/fands.html

Door prizes will be awarded directly following this address.

SESSION 8
Saturday, 10:00 a.m. – 10:45 a.m. for 8A, 8B, and 8D; and 10:00 a.m. – 11:45 a.m. for 8C

8A.　　　　　*iPod Math*
Room 125　　10:00 a.m. – 10:45 a.m.
　　　　　　　Andy Bennett, Kansas State University, Manhattan, KS
　　　　　　　Screencasting software allows you to capture full-motion images from your computer screen to digital video for later playback. Pairing this with your favorite mathlets will let you create animated tutorials for your students. Add a tablet PC and you can mix in online lectures suitable to almost any screen, even a video iPod. This talk will demonstrate both free and commercial packages for screencasting and will also share some tips for making successful online tutorials. www.math.ksu.edu/~bennett
　　　　　　　Presider: Ron Palcic, Johnson County Community College, Overland Park, KS

8B.　　　　　*Elementary Statistics in a Hybrid Format (The Best of Both Worlds?)*
Room 203　　**Uwe Conrad, Cowley County Community College in Wichita, Wichita, KS**
　　　　　　　In the spring of 2006, I was confronted with the task of putting a hybrid course together. After eight months of extensive research and experimentation, I taught Elementary Statistics in a hybrid format in the spring of 2007. In this presentation I would like to present my trials and

tribulations of the Hybrid Experience. I will showcase the combination of Video CD's, on-line lectures, and in-class instruction I implemented. I will demonstrate what worked and what did not. On the course "Welcome Page," I stated, "This is a Hybrid Course – an exciting new concept combining the best of On-line delivery with the best of In-class instruction!" Judge for yourself if I promised too much.
Presider: Carl Anderson, Johnson County Community College, Overland Park, KS

8C. **Room 302**	***WORKSHOP: Table-free Statistics II: Visual and Numerical Analysis of Continuous and Discrete Probability Distributions via TI-84 Graphing Calculators***

10:00 a.m. – 11:45 a.m.
Samuel Lynch, Missouri State University, Springfield, MO
This hands-on workshop is a revised and continued edition of *Table-free Statistics* from the 2006 EXPO. The workshop will provide experience on the TI-84 graphing calculator in calculating:
- Probabilities for continuous probability distributions: Z, t, Chi-square and F
- Inverses of continuous probability distributions
- Discrete probabilities: Binomial, Geometric, and Poisson

There will be an accompanying handout that is a complete tutorial for accurate, student-friendly, statistical calculations with no tables.
Presider: Chuck Pheatt, Emporia State University, Emporia, KS

8D. **Room 306**	***Teaching Developmental Mathematics Using ALEKS***

10:00 a.m. – 10:45 a.m.
David McWilliams, Missouri Western State University, St. Joseph, MO
This presentation will highlight the use of ALEKS (Assessment and Learning in Knowledge Spaces) in the delivery of developmental mathematics courses at Missouri Western State University. ALEKS is a web-based, artificially intelligent assessment and learning system.

Missouri Western uses ALEKS for mathematics placement and to create a customized course of study for each developmental math students. Classes are taught in a computer lab with instructors and tutors working one-on-one with the students. The presentation will include an overview of how ALEKS works, the overall design of the developmental math courses at Missouri Western, and data on student success rates at Missouri Western.
Presider: Qiang Shi, Emporia State University, Emporia, KS

SESSION 9
Saturday, 11:00 a.m. – 11:45 a.m.

9A. **Room 115**	***Transitional Professional Software: Further Data Examples from Working with Urban Sixth Graders (and a chance for Q and A with the Invited Speaker)***

Jere Confrey, North Carolina State University, Raleigh, NC
In this interactive session, Dr. Confrey and colleagues from GISMO (Generating Increased Science and Mathematics Opportunities) will answer any questions from the plenary, and will provide further examples from the students who were in the workshop. We will discuss the students' activities in modeling 3-D in two dimensions using a programmable perspective and their work on learning the mathematics of change in position and transferring that to the software.
Presider: Joe Yanik, Emporia State University, Emporia, KS

9B.   ***Using Technology and Geometry with Gnuplot Software and an***
Room 203   ***Animation Program***
        Scott Van Thuong, undergraduate, and Grant Lathrom, faculty sponsor, Missouri Southern State University, Joplin, MO
        The definitions of the ε-δ limit for a function of one and two variables will be presented briefly. Then, the speaker will prove limits using algebra and geometry in specific case studies, the first of which deals with a function of one variable. The problem will then be modified to include a discontinuity in the domain. Then the program will be used to enhance the understanding of the dynamic relationship between the values of ε and δ by animations depicting the process of collapsing. After this demonstration, the presenter will let the audience use his software to demonstrate the same thing he just did. Then they will be able to use it to teach the ε-δ limit and other mathematics topics.
        Presider: Betsy Yanik, Emporia State University, Emporia, KS

9C.   ***Mini-Workshop:***
Room 205   ***TI-83/84 Basics: Have you wanted to know how to use the TI-83/84, but were afraid to ask? Have you wondered about the new TI-SmartView?***
        Libby Corriston, Johnson County Community College, Overland Park, KS
        If you have you been thinking that you would like to know about the TI-83/84 calculators, but feel behind, then this mini-workshop is for you! TI-84 calculators will be provided for the session. We'll go over the basics – with the focus on College Algebra and beginning Calculus. Topics covered will be: entering and editing math problems; graphing functions (polynomial, rational, absolute value, greatest integer, exponential, log, and trig); finding zeros, extrema and the intersection of two graphs; and finding a linear regression equation for a set of points. Handouts with complete explanations will be provided for material covered in the workshop. There will also be handouts on topics we won't have time to cover, such as Degrees/Minutes/Seconds conversions, Matrices, and Statistics. Free copies of DVD's for educators will be available: Intro and Graphing on the TI-83/84. These DVD's were created by the speaker.   The speaker will use the *TI-SmartView* Emulator Software for the presentation and will have a few 30-day trial copies of *Smart-View* to give away.
        Presider: Brian Hollenbeck, Emporia State University, Emporia, KS

LUNCH
Saturday, 11:45 a.m. – 1:00 p.m. in Massman Hall

SESSION 10
Saturday, 1:00 p.m – 2:45 p.m. for 10A; and 1:00 p.m. – 1:45 p.m. for 10B, 10C, and 10D

10A.   ***WORKSHOP: Podcasting Mathematics 101***
Room 203   1:00 – 2:45 p.m.
        David Ewing, University of Central Missouri, Warrensburg, MO
        Come and create your own podcast. This hands-on presentation will demonstrate the basics for creating and publishing your own mathematical Podcasts. During this session, "Do's" and "Don'ts" of Podcasting will be presented, and appropriate opportunities for using Podcasts will be discussed.
        Presider: Libby Corriston, Johnson County Community College, Overland Park, KS

10B. **Room 205**	***Building a Sine Calculator: A Project for Calculus II Students*** 1:00 – 1:45 p.m. **Keith Brandt, Rockhurst University, Kansas City, MO** The speaker will construct a Mathematica notebook that uses the Lagrange error bound for Taylor series to calculate the sine function to a desired accuracy. The process of building the calculator showcases several fundamental concepts from mathematics. In particular, basic properties of integrals and derivatives (used in finding the Taylor series and understanding Lagrange's error bound) and basic properties of the sine function (periodic, odd, bounded derivatives, etc.) will be used. The sine calculator could be presented in class or, with appropriate hints, assigned as a student project. If time permits, the speaker will discuss calculators for square roots, logs, etc. http://rumathphysics.org/brandt/ **Presider**: Brian Hollenbeck, Emporia State University, Emporia, KS

10C. **Room 302**	***Fighting Algebra Fatigue with Excel in Algebra and PreCalculus*** 1:00 – 1:45 p.m. **Revathi Narasimhan, Kean University, Union, NJ** As they begin their upper level algebra and precalculus courses, many students are already quite weary of algebra. We will show how the Excel spreadsheet can be used to make the course content more appealing. Topics will include functions, equation solving, curve fitting, exploring rates of change, and trigonometric models, in the context of the Excel spreadsheet. http://www.collegemath.info **Presider:** Qiang Shi, Emporia State University, Emporia, KS

10D. **Room 306**	***Mini-Workshop: Sequence Mode on the TI-84 Plus (or TI-32) for Beginners*** 1:00 – 1:45 p.m. **Ginger Riddle, Leavenworth High School, Leavenworth, KS** We will explore the use of the sequence mode on the TI-84 calculator to evaluate sequences both recursively and explicitly. Participants will learn to define sequences with one and two initial terms, find n^{th} terms, set up and use the table and graph the sequence, and find sums, partial sums, and cumulative sums in sequence mode. A handout will include detailed instructions and multiple examples. **Presider**: Steve Wilson, Johnson County Community College, Overland Park, KS

The 2007 EXPO Group

- **Richard Gill** (2004 – 2007 Chair), rgill@bluevalleyk12.org
  Blue Valley High School, Stilwell, KS

- **Carl Anderson**,
  Retired from Johnson County Community College, Overland Park, KS

- **Andy Bennett**, bennett@math.ksu.edu
  Kansas State University, Manhattan, KS

- **Keith Brandt** (Local Site) keith.brandt@rockhurst.edu
  Rockhurst University, Kansas City, MO

- **Libby Corriston** (Publications, 1995 & 1996 Chair), libbyc@jccc.edu
  Johnson County Community College, Overland Park, KS

- **Richard Delaware** (Exhibitors, 1993 & 1994 Chair), delawarer@umkc.edu
  University of Missouri – Kansas City, Kansas City, MO

- **Mayumi Sakata Derendinger** (Publicity), sakatam@william.jewell.edu
  William Jewell College, Liberty, MO

- **Ken Eichman** (Registration, 1997 & 1998 Chair), Ken.Eichman@mcckc.edu
  Longview Community College, Lee's Summit, MO

- **David Ewing** (Special Speaker Contact) ewing@cmsu1.cmsu.edu
  University of Central Missouri, Warrensburg, MO

- **John Koelzer** (Site Coordinator & Financial Secretary), John.Koelzer@rockhurst.edu,
  Rockhurst University, Kansas City, MO

- **Tamatha Leuschen** (Webmaster)
  Formerly of Pembroke Upper School, and Center High School, Kansas City, MO

- **Chuck Pheatt** (Evaluations), pheattch@emporia.edu
  Emporia State University, Emporia, KS

- **Marian VanVleet** (Recording Secretary, 1999 - 2003 Chair), vanvleetm@everestkc.net
  Retired from the University of Saint Mary, Leavenworth, KS

- **Joe Yanik** (Presiders), yanikjoe@emporia.edu
  Emporia State University, Emporia, KS

Events/Activities in Kansas City: www.kansascity.com