

# NCMATYC NEWS

## Winter

2007-2008

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### The President's Message

Jan Mays, Elon University

Greetings! I hope all of you were able to spend time with friends and family over the holidays.

The beginning of the semester is a busy time for all of us but I hope you will make plans to attend our annual spring conference to be held March 13 and 14, 2008 at Forsyth Technical Community College in Winston-Salem. Dale Boger and his crew are working hard to make this one of our best conferences ever. Our keynote speaker is Dr. Marty Triola, a well-known author of statistics texts. In addition, the board of NCMATYC has been working to bring some featured speakers from across the country to the conference. Make sure you check out the conference information elsewhere in the newsletter and on the website at: [www.ncmatyc.com](http://www.ncmatyc.com).



This is an election year for NCMATYC and you should have received a ballot or will be receiving one soon. Please take a moment to complete and return the ballot. Your input in choosing the leadership of NCMATYC is important to us. Finally, this is my last newsletter as president but I look forward to working with the new board in my role as past-president and especially with Suzanne Williams who will take over as president on May 1.

I would also like to thank Rob Kimball, who has completed his role as Southeast Vice President of AMATYC, for all of the guidance and support he has given NCMATYC over the years. We know he will continue to work with the community college folks in North Carolina to encourage us to be the best we can be. Best wishes for a happy and productive 2008!

***The NCMATYC NEWS is an official publication of the North Carolina Mathematics Association of Two-Year Colleges. Articles for publication and comments should be submitted electronically to [dzemanek@email.pittcc.edu](mailto:dzemanek@email.pittcc.edu). Visit NCMATYC online at [www.ncmatyc.com](http://www.ncmatyc.com).***

**Your Ex- Regional Vice President**  
**Rob Kimball, Wake Technical CC**



Being an officer in AMATYC was a great experience! Thank you for your support, encouragement, and guidance.

During my time on the Board, AMATYC has been successful in obtaining outside funding that is helping achieve its

strategic plan. Themed short sessions are now included in conferences, offering attendees a chance to see a variety of ideas on one topic in a short period of time. Project ACCESS, an important initiative, as gone from a partnership with the MAA to an AMATYC-sponsored project. Committees have been redesigned both to address the important issues in mathematics education, but to also bring some structure to what was always a tough job – committee chair.

Now, AMATYC is addressing its publications as well as the delegate assembly. Conference programs will still be assessed to be sure we focus on the right stuff and provide attendees with the right options. Keeping AMATYC fiscally responsible is becoming a bigger issue each year. And, lastly, decisions with regard to the AMATYC Office and full-time leadership are being addressed.

AMATYC needs its members to be involved and take on the leadership roles that will keep AMATYC an important association on the national stage. Members from the Southeast need to step up and help as the association grows and develops. I look forward to seeing that happen.

The next few conferences will be huge; DC, Vegas, Boston, and Austin! Make plans to attend, present, and find a way to be more involved. It will be to your advantage!

**Your Regional Vice President**  
**Donna Saye, Georgia Southern University**



At the conclusion of the AMATYC Annual Conference in Minneapolis, Minnesota, I began my first term as your regional Vice President. It was encouraging to see so many members from our region in attendance at the conference. I am looking forward to visiting each of your

affiliate chapters during the coming year. Rob Kimball was an excellent Vice President, and he really is to be commended for his work in making our region the strong, vibrant region that it is today. I can never replace him, but I will endeavor to continue his good work during my two-year term. We have begun even now plans for next year's conference in Washington, D.C. on November 20-23, 2008. I hope to see you all there!

In an effort to introduce myself to you, I would like for you to know that I am currently an Assistant Professor in the Department of Mathematical Sciences at Georgia Southern University in Statesboro, Georgia. I am actively involved in GMATYC and have served as secretary, president-elect, president, and past-president. I am married to Neal Saye, an Associate Professor in Writing and Linguistics at Georgia Southern, and we have two daughters—Amy and Emily. Amy is a nurse and is married to Dr. Ortelio Bosch (pain management and anesthesiology) and they have one son, my first grandson, Daniel. Daniel is seven months old and has already stolen my heart! Emily recently graduated with a degree in Justice Studies and is eager to begin a career in that field. I also am a HUGE fan of the Atlanta Braves and eagerly anticipate (every year) that they will once again win the World Series!

## Greetings from Charlotte      By Suzanne Williams, Central Piedmont CC

Our Spring conference is just around the corner, and it promises to be a great one! I want to thank all of you who have agreed to be presenters. We truly will have something for everyone! Some of the many offerings include a presentation on teaching high school material to adult learners, a presentation on Genuine Gen Ed Assessments (already approved by SACS), a presentation adapted from AMATYC on how the brains of 18-25 year olds learn, and a presentation on how to help our students become independent learners.



If that is not enough to excite you, how about the fact that when the newsletter went to press we had three authors committed to join us? Sherri Messersmith has a developmental math book; Scott Adamson has an applied calculus book; and Marty Triola, our lunch speaker, has a statistics book. I would not be surprised if we have additional commitments by conference time.

Of course, we will have our own faculty, as always, presenting on other topics of interest. I have been very impressed as I have received your proposals. They have all been so well thought out, so varied, and so on point with current happenings in the world of community college math.

Dale Boger, our host at Forsyth, has supplied the following information about lodging:

Quality Inn & Suites  
2008 S. Hawthorne Road  
Winston-Salem, NC 27103  
Telephone: 1-800-4CHOICE  
Fax: 336-659-0436  
Website: [choicehotels.com/hotel](http://choicehotels.com/hotel)  
Email: [gm.nc546@choicehotels.com](mailto:gm.nc546@choicehotels.com)



Winston-Salem, NC, March 13-14, 2008

Lodgers should be able to merely say that they are with the NCMATYC Conference and they should be able to get the state rate of \$63.75 plus tax.

If you have questions or last minute concerns, please email me at [Suzanne.williams@cpcc.edu](mailto:Suzanne.williams@cpcc.edu), otherwise, I'll see you in Winston Salem.

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## Last Call . . .      By Chuckie Hairston, Halifax CC

The deadline for nominations for NCMATYC officers is December 31. Now is the time to jump right in and run for office. No experience necessary! Become a member of the NCMATYC Board and help guide our organization for the next two years. In addition, if you know of someone who would make an effective Board member, give him/her a nudge toward running. The two of you can run for offices at the same time.



All you have to do is contact Chuckie Hairston ([hairstonc@halifaxcc.edu](mailto:hairstonc@halifaxcc.edu) or 252-536-6378) to get your name on the ballot. Keep NCMATYC strong by taking an active part.

## Project ACCESS Cohort 4

By John Bakken, Tina Starling, and Lisa Williams



Many of our students may think having over 1000 CC math instructors in one hotel over Halloween weekend is scary, but for us Project ACCESS fellows it was a great professional development experience, perhaps one of the most meaningful in our careers so far. For the 4th year, 25 new math instructors (less than 3 yrs FT CC teaching experience) were selected from across the nation. Cohort 4 included 3 instructors from NC: John Bakken & Tina Starling of Wake Technical CC and Lisa Williams of College of the Albemarle. As part of Project ACCESS (Advancing Community College Careers: Education, Scholarship, Service), we attended the 2007 AMATYC Conference in Minneapolis and participated in numerous sessions designed specifically for fellows. The connections and exchanges made between colleagues were extremely beneficial and sent us back recharged with new ideas to try in



our classes. As part of Project ACCESS, we are each working on a project to implement in the spring semester and will be attending a local/regional AMATYC, MAA, and/or NCTM conference. Next fall, Cohort 4 will gather in Washington DC and attend the 2008 AMATYC conference and present our project findings to the newly selected Cohort 5 of Project ACCESS fellows. We each took different things away from

the conference and have different projects slated for the spring. Below is a brief summary from each of us about a favorite session and our project idea.

*Continued on Page 5*

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## Traveling Workshop By Deborah Benton, Wake Technical CC

NCMATYC hosted its first AMATYC traveling workshop on October 12th at Coastal Carolina Community College. Honey Kirk, from San Antonio, Texas, conducted the workshop which focused on student learning. Twenty-one instructors from eastern North Carolina built



towers, sang formulas and wrote a lesson plan. Our first activity was to build the tallest, free standing structure using straws and marshmallows. I have included a picture of the winning group. We then investigated the way in which we, as instructors, learn compared to the most common ways students learn. Using the results of our discussion we presented a lesson to the group incorporating the three ways students learn. What a talented group! NCMATYC is looking



forward to hosting another traveling workshop next fall in the western part of the state.

Thoughts from John: The part of the program that I enjoyed most was a session on “Things that Work.” Each of the Cohort 4 fellows brought an activity that they found to work in their classes. These activities ranged from short in-class assignments, to larger out-of-class projects. Each fellow also brought copies of their activity, so I left this session with 24 new activities that were ready to use. My favorite activity was one that involved using MATLAB to explore the sound of the sine curve. I feel that I left the conference with many new colleagues and friends that I will always be able to turn to for ideas and advice. For my project, I will be collaborating with another ACCESS fellow on ways to encourage students to spend more time preparing and reflecting for their classes.

Thoughts from Tina: One of my favorite talks was outside of those designed solely for the ACCESS fellows. I attended a session titled “Mathematical Ideas that Emerge from Data Collected in the Classroom” by Scott Adamson. He provided a collection of ready-to-use activities that promote covariational reasoning through fun explorations involving data analysis. To view his presentation, go to <http://www.amatyc.org/publications/Electronic-proceedings/2007Minneapolis/scottadamson2.pdf>. To view the handouts that were distributed, go to <http://www.amatyc.org/publications/Electronic-proceedings/2007Minneapolis/scottadamson1.pdf>. My project for ACCESS will focus on implementing new strategies for student involvement and preparation in the Brief Calculus courses.

Thoughts from Lisa: I enjoyed hearing Diana Hestwood speak about implications for students and faculty on how the brain learns and remembers. She reminded me that your brain goes on autopilot after 8-10 minutes of similarity. Studies have shown as much as 30% of class time is spent reviewing and doing little things to reactivate the brain can decrease this percentage. She also suggested spending a class period, especially with developmental students, discussing dendrites and how they only grow when you actively are doing something (listen, write, talk, etc.). We all know math takes practice, but maybe the science behind this theory, will make our students believers that they need to do homework. To access her handout, go to <http://www.tcmtechnologyblog.blogspot.com/> and click on the brain science and teaching link on the right. After the conversations I had at the conference and ideas from other fellows, I have decided to focus my project on ways to improve student attendance, retention, and performance in developmental math courses.

Project ACCESS is an excellent way for new instructors to become involved and learn from instructors in our field. We encourage any new math faculty members to consider applying to become a Project ACCESS fellow in the future at <http://www.access.amatyc.org/home.htm>.

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### Treasurer's Report

By Catherine Jordan, Wake Technical CC



Check the NCMATYC website [www.ncmatyc.com](http://www.ncmatyc.com) at the end of December to see a complete report of all expenses and funds for 2007.

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If you go to **Winston-Salem, NC** for the **NCMATYC Conference, March 13-14, 2008**, please consider submitting articles for the next edition of NCMATYC Newsletter on sessions that you attended. *The deadline for the Spring 2008 issue is April 3, 2008.*

## CAUSE By Lisa Williams, College of The Albemarle



After some recent conversations with other colleagues who teach introductory statistics courses, I realized many stats instructors are unaware of CAUSE, the Consortium for the Advancement of Undergraduate Statistics Education. I am unsure how I actually came across it last fall, but I have come to think very highly of this organization. It is a national organization whose mission is to “support and advance undergraduate statistics education, in four target areas: resources, professional development, outreach, and research. CAUSE has a wonderful website that has tons of statistics resources available and it is free to be a member. In addition, it hosts monthly webinars and workshops across the country. The CAUSEWEB link is <http://www.causeweb.org/>.

In August, I had the opportunity to travel to Rochester, NY and participate in a week long statistics workshop titled, Navigating the First Statistics Service Course sponsored by CAUSE and lead by Tom Short and John Holcomb. The workshop was based on recommendations in the GAISE College report. The week covered topics such as: statistical thinking and conceptual understanding (day 1), finding and using real data (day 2), getting away from formulas and fostering active learning (day 3), assessment of student learning (day 4), and the role of technology in introductory statistics (day 5). I walked away from this week inspired to enrich my MAT 155 course with applets, Reese Pieces Labs, Birth Weight Projects using a real NC data set (nurses love it), and StatCrunch Software (very user-friendly and inexpensive, free with Triola Course Compass). This semester my students enjoyed these new elements and I felt the course was more meaningful to them. You can access materials from this workshop at <http://www.math.iup.edu/~tshort/rochester/>. This by far was one of the best statistics workshops I have ever attended; well worth the week from my summer vacation. While many of the workshops are a good distance away, logging and most of meals are covered by a NSF grant. You are only responsible for transportation and dinner each night. I encourage any MAT 151 or MAT 155 instructors to explore CAUSE and its resources.

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## A Note from the Editor By Daniela Zemanek, Pitt CC

I am sending out the second newsletter under my tenure as editor. Before accepting this responsibility I did not know how rewarding this job would be. In just a few months as editor I got to be acquainted with many instructors from around the state that otherwise I would not have had the opportunity to know.



I wish to thank all of you for the articles you took the time to write and send to me. I was really impressed with the number and the quality of the articles that were submitted. Without your contribution the NCMATYC newsletter would not be possible.

Also, I would like to extend a special thank you to Helen Kolman and Rob Kimball for their help and suggestions with this newsletter. Both of you are excellent editors and you did an outstanding job editing our newsletter during your tenures. My goal is to continue your good work.

Recently I was discussing with several NCMATYC board members ways to get more of our new instructors involved in NCMATYC. Therefore, we would like to ask faculty to write articles about recent accomplishments of their new colleagues.

If someone in your department has done something remarkable, please write an article and submit it for our newsletter. My e-mail address is [dzemanek@email.pittcc.edu](mailto:dzemanek@email.pittcc.edu). If I am overwhelmed with articles, I may have to highlight several faculty.

These are the first two articles of a series of regular articles spot lighting new faculty around the state.

### **Instructor Spotlight: Cao Nguyen**

**By Suzanne Williams, Central Piedmont CC**



Cao Nguyen came all the way from Los Angeles, yes that's in California, to join the math faculty at Central Piedmont Community College. He attended University of California, Riverside for his undergraduate degree and was awarded his Master's by California

State University, Los Angeles. Although this is his first full time position, Cao had valuable experience as an adjunct in several large community colleges in southern California. His experience with diverse student populations, both in terms of ethnicity as well as academic preparation, has given him a valuable perspective on student learning.

Cao attended his first NCMATYC conference in Charlotte. Since CPCC was the host school, Cao found this conference anything but relaxing! In November, he attended the AMATYC conference in Minneapolis.

At CPCC, Cao is the Facilitator of the Student Math League. This is natural for him, since he tied with Chris Mansfield for first place in the Faculty Math League competition in Charlotte last year. To further enhance his star power, at the Fall AMATYC conference Cao placed third in the Faculty Math League competition.

In his free time, Cao is an avid sports fan. He plays tennis and basketball when not watching his beloved Oklahoma Sooners. Cao has fantasy football, baseball, basketball, and NASCAR teams. This helps him stay in touch with his friends from California.

Look for Cao in Winston Salem. He's learning "Southern", so just greet him with a big "Hey Ya'll"! You'll find out why CPCC is so happy that this Westerner came East!

### **Instructor Spotlight: Karen Sanders**

**By Lisa Cooley, Piedmont CC**



The start of Fall Semester is one of my favorite times of the academic year. I love to see instructors returning to the College after a summer of rejuvenation, brimming with fantastic ideas for

the year ahead. When Karen Sanders stopped by my office in August to share an idea to promote student success, her enthusiasm was so contagious, I knew her students were about to experience something special.

Karen's experience with developmental students has taught her that their success in the classroom is tied to many issues. Oftentimes, the key to success is for students to find a way to believe in themselves and to know that someone else believes in them, too. Her idea? To adopt the phrase "Failure is not an option," spoken by Flight Director Gene Kranz's character in Ron Howard's movie "Apollo 13," as the theme around which she would structure her classes. By showing a short clip from the movie and using various items embossed with the famous phrase, she impressed the theme on her students' minds in a truly inventive fashion. Throughout the semester, she's remained true to the theme, periodically wearing her "Failure is not an option" shirt as a gentle reminder to her students that she believes in their potential to succeed.

Karen has found a wonderfully creative way to inspire her students. I knew it when she first shared her idea with me, and I thought then as I do now that Piedmont Community College is so very fortunate to have her as part of our team

# Short News from Around the State



## **Alamance Community College** By Melissa Staley

Cathy Johnson, former Mathematics Dept Head, has been named Associate Dean for Arts and Sciences at Alamance Community College. She replaces Dan Timmons who has returned to the classroom to teach physics and mathematics. He says he got the best end of the deal since he can now go home before 5pm every day.

## **Alamance Community College** By Melissa Staley

Sonya McCook has been named Department Head for mathematics. She is a graduate of Appalachian and UNC-CH and has been an instructor at ACC for 10 years. She received the Excellence in Teaching Award at ACC in 2000 and has worked as a developer in the VLC project for several years. She, Dan and Cathy are co-authors of the math textbooks, Fundamentals of Algebraic Modeling and Mathematical Models with Applications.

## **Caldwell Community College & Technical Institute** By Mike Bradshaw

Caldwell Community College and Technical Institute is pleased to announce the return of Jennifer Fisher as a full time member of our math department effective January 2, 2008. Jennifer began her college teaching career at CCC&TI before moving east to Lenoir Community College three years ago. Now she is moving back west to the area she calls home. Our department is looking forward to working with her again.

## **Pitt Community College** By Daniela Zemanek

Mitzi Logan, Chairperson of the Math and Physics Department at Pitt Community College in Greenville, NC, will retire on May 1, 2008.

Ms. Logan has been a mathematics instructor at the college for 23 years and has chaired the Department for the past 19 years. She has been the secretary of NCMATYC for 7 years. Mitzi has made many contributions to the department and the Pitt Community College as a whole and through many hours of volunteer work has proudly represented the college in the community.



Pictured in the photo are Mitzi Logan and Pat McKeague at AMATYC Conference, Minneapolis, 2007.

# Reports from AMATYC Conference

## AMATYC Conference By Dr. Claude S. Moore, Cape Fear CC

Were you in Minneapolis on November 1-4, 2007? If you answered NO, you really missed a “treat” at the 33rd Annual Conference of AMATYC – American Mathematical Association of Two-Year Colleges. We had a wonderful flight from Wilmington to Atlanta to St. Paul-Minneapolis on Wednesday. After registration at the conference and check-in at the hotel, it was time to relax, get some food, and see a few of the sites in Minneapolis.



Thursday brought a full day of over 50 sessions, workshops, and committee meetings on the schedule of activities. Friday offered even more opportunities for professional development with more than 70 sessions, workshops, and meetings. On the third day, Saturday, we still had opportunities to learn from colleagues across the nation with more than 50 scheduled sessions, workshops, and meetings. On the last day, Sunday, more than 10 activities including the Closing Session were scheduled. Of course, throughout these three days, there were numerous nationally-known speakers with informing and encouraging messages and networking opportunities at scheduled sessions and at informal times.

The almost 200 sessions and workshops presented information relative to assessment, articulation, developmental mathematics, department/division issues, general interest, math for general education, history of mathematics, instructional strategies, math intensive, research-based, student support, statistics, teacher preparation, and teaching with technology. To show the latest in printed and electronic instructional materials and software, there were representatives from more than 30 vendors at the conference. One of my colleagues, Valerie Melvin, and I had the honor and pleasure of presenting “Supplementing Mathematics Instruction with Technology” at 8:15 a.m. on Thursday.

Don't miss the next AMATYC Conference! Mark your calendar for **November 20-23, 2008**, and make your plans to attend the **34th AMATYC Annual Conference in Washington, DC**.



*PERSONAL NOTE:* I know that I speak for many AMATYC members and probably all NCMATYC members when I say, “Thank you, Rob Kimball, for your six years of faithful service in a very professional manner as Southeast Vice President of AMATYC.”

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## AMATYC in Minneapolis By Lee Ann Spahr, Durham Technical CC

Once again, we had a wonderful AMATYC Conference. Minneapolis was experiencing an unusually warm spell with temperatures nearing 60° most days, the city was beautiful, the New Orleans crew provided wonderful cajun hospitality, and the sessions were excellent. We were very fortunate to have 24 attendees from North Carolina among the approximately 1100 conference participants. Cao Nguyen from Central Piedmont made the North Carolina contingent very proud as he took the third place award in the Faculty Math League math contest.

This year we had a very lively keynote address delivered by Pat McKeague in which he discussed the various interesting topics he has incorporated into his classes by frequently utilizing the first five minutes of his class period to discuss fun math topics and those of special interest to students.

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## AMATYC in Minneapolis

*Continued from Page 9*

By engaging students in this manner, Pat has changed the way many of his students perceive mathematics over his 37-year teaching career. The part of his speech that I found most delightful was when he shared some of his student evaluations. Of course, most of Pat's evaluations were wonderful, but he also shared those from students who criticized him for "getting off the topic"!

We were also very fortunate to have Dan Kennedy as the breakfast keynote speaker, as he related to us his work with the production and mathematical computations included in the popular television show, NUMB3RS. Dr. Kennedy's experiences in working behind the scenes and with the actors of this show were truly fascinating.

I attended numerous sessions devoted to the online delivery of mathematics courses, and probably my most memorable quote from the conference came from a presentation given by two instructors who regularly teach mathematics both online and in a hybrid format. The presenter said "If you teach mathematics online, you must be prepared for a lot of F's!" I wondered if we could have him deliver that quote to all non-math instructors who think that our low success rates in online courses are a result of our teaching the courses so poorly!

Another feature of the conference each year is that of the Department Chairs Colloquium. This year we spent a great deal of time discussing Student Learning Outcomes and the assessments we are using in our classes. It was a very beneficial discussion, as we shared our ideas about the various means by which to create and assess outcomes in mathematics classes.

Additionally, we had an entire three-hour themed session devoted to assessment concerns, and numerous presenters discussed the various aspects of mathematics placement and assessment.

We had several social functions at which we met many textbook authors, and we even had the special opportunity to celebrate Marge Lial's 80th birthday on Friday, complete with a huge birthday cake, certainly fitting for a great lady like Marge.



Of course, the most fun aspect of the conference was visiting the Mall of America. It was my second visit to this gargantuan mall, so I was not quite as overwhelmed by its enormity as some others were. However, I did decide to conduct my own statistical experiment this year. I asked everyone who would speak to me to tell me where they were from in an attempt to get an idea if Minnesotans actually shop at this mall.

Much to my surprise, only one person from the numerous people I queried was actually from Minnesota. I even questioned one person who turned out to be from Vienna, Austria! One of the employees of the mall responded that only approximately 25% of the mall customers are actually from the state of Minnesota, as most are tourists.

Hopefully, we can look forward to another great conference in Washington, D.C. next year. As it is within driving distance, I hope to see many NCMATYC members there.



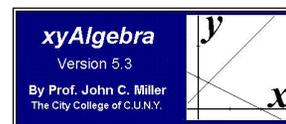
## Mathematical Ideas from Data. Presented by Scott Adamson, Chandler-Gilbert CC, Chandler, Arizona By Jan Mays, Elon University



Too often our students see mathematics as a collection of procedures that must be memorized. Getting good grades in math equates to being able to choose the right procedure at the right time. Scott ties courses from college algebra to calculus together by focusing on covariational reasoning which is how two quantities change in tandem. Data collected in the classroom is used to motivate students to note how variables relate to each other and to study the implications of what we can learn from the relationships. One particularly interesting activity is motivated by the question, “How many times can you fold a piece of paper in half?” The question is extended by looking at the width of the paper as it is folded. Can students predict the height of the paper if it could be folded 40 times? This example of exponential growth grabs their interest and motivates the study of exponential functions. Scott follows this up in class by sharing episode 72 of Discovery Channel’s “Mythbusters” program which dealt with paper folding. If you are intrigued by Scott’s methods, you should plan to attend his session at our conference in March.

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## Free Intelligent Algebra Software Shown at AMATYC By Daniela Zemanek, Pitt CC



When John Miller retired from The City College of New York in the year 2000, he began shifting the emphasis of xyAlgebra, his free algebra tutorial program. At The City College it had been used to teach the first algebra course in a lab staffed with undergraduate tutors. Since then, he has added many features to make xyAlgebra better for various other uses. These include: monitoring and grading homework, providing repetitive math-lab-based practice and review, and teaching distance learning courses.

At last month’s AMATYC Conference in Minneapolis, xyAlgebra was unique among the computer-based materials on display in the commercial exhibit area in two key respects. First, xyAlgebra was the only program shown at AMATYC that actually accepts step-by-step solutions to all multiple-step algebra problems. The program characterizes each step as acceptable or not by checking for equivalence in the sense appropriate to that type of problem. It can hint at, or provide, a reasonable next step at any stage and regardless of the student’s solution method. It responds to any non-equivalent student step as a good human tutor might. How? By reviewing with the student the operation that its next-solution-step-generating algorithm finds appropriate at that step and by asking the student to practice that operation on a step similar to the last correct step.

In this way, xyAlgebra supports literally any correct method of solution, and provides appropriate help as soon as a mistake occurs. Most instructors find this dramatically superior to the “short final answer and single-method stored solution” approach of most current software.

Second, xyAlgebra is free, and it was the only free math tutoring program available anywhere in the exhibit hall. When asked why he doesn’t charge for his work, Professor Miller said, “I’m a decent academic and a lousy entrepreneur. If I’d had to do this as a business, I’d have lost interest years ago. Besides, if I had to kowtow to market forces, the program wouldn’t have been nearly as much fun to write, and probably wouldn’t be nearly as good as I think it is.”

Professor Miller’s web site, which describes xyAlgebra in more detail and offers it for free downloading, is [www.xyalgebra.org](http://www.xyalgebra.org) . He is also happy to respond to e-mail inquiries sent to [xyalgebra@mindspring.com](mailto:xyalgebra@mindspring.com).



The titles of sessions and workshops at a national conference should indicate trends as well as address important issues. So it was with the AMATYC Annual Conference.

Over the past few years, more and more sessions at both NCTM and AMATYC have dealt with the use of spreadsheets in the teaching and learning of mathematics. Here are a few titles from the recent AMATYC conference – and these are the only the ones I'm sure about.

- Supplementing Mathematics Instruction with Technology (“Excel in the teaching of algebra and precalculus”)
- Fighting Algebra Fatigue with Excel in Precalculus and College Algebra (“Excel spreadsheets can be used to make course content more appealing”)
- An Introduction to Graphing Equations and User Controls in Excel (“learn to use Excel”)
- Brief Calculus: Implementing Beyond Crossroads with Excel (“modifying these calculus topics using Excel”)
- Using Technology to Enhance Student Learning (“technology can bridge the gap”)
- Mathematics with Technology for K-8 Teachers (“supports the NCTM standards”)
- The Power of Excel (“Excel is a powerful tool to simplify and expedite your statistical analysis”)
- Matrices and Linear Programming with Excel (“matrix operations...solving linear programming problems with Excel”).

Both the CUPM Guidelines and Beyond Crossroads call for faculty to embrace spreadsheets. If your college is not providing you with classrooms that have a PC and LCD, then let them know it is time to do so. Spreadsheets are wonderful presentation tool but a MUST for students to learn in order to investigate mathematics and be prepared for the real world.

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## “The World is My Whiteboard: Teaching Math in a Real World Context”

By Mary Pearce, Wake Technical CC



After sitting for ten minutes in Frank Wilson’s presentation I decided that I was listening to the same talk that he had done at the spring NCMATYC conference. He shared the importance of teaching math to which the students could relate and I once again saw that funny video with the illusive gorilla. But the remaining 40 minutes made me very glad I had chosen to hear him again.

After the gorilla video he talked about how he had gone to Home Depot and bought a bunch of whiteboard material and made small whiteboards. He uses the small whiteboards when he does group work in class. Each group gets a whiteboard to use to present their problem to the class. I liked this idea better than passing out overhead slides, because it would be easier to clean-up after class.

Next he led the group in a data collection activity. He whispered “You are now infected with the plague.” to an audience volunteer; that was round one. The volunteer then whispered the same thing to another person; that was round two. In round three the two people who knew the phrase had to whisper to someone else. This continued until everyone in the room had heard the phrase. The independent variable was the round and the dependent variable was the number of people who had heard the phrase at the end of the round. Frank then graphed the data and was able to fit a logistic curve to it. He said we were modeling the spread of a contagion in a confined area.

Frank saved the best part of the presentation for last. He passed out a copy of his Make It Real book of 100 mathematical models and the Make It Real classroom activity packet. Both of these are available from his website [www.makeitrealllearning.com](http://www.makeitrealllearning.com), but having the hard copy has made finding examples for the classroom much easier and even fun.

## From the Membership Chair

By Mitzi Logan, Pitt CC

Hello Everyone! Happy Holidays and here's wishing you a wonderful Spring schedule with the very best students!

Our membership is holding steady...still lower than it has been in a long time. We have 276 members whose membership expires in September 07 or later. Technically, you are no longer a member if your expiration date is more than 4 months old. Please check your date that is located just above your name on the address label. If your expiration date has the year 2007, please save me some postage and renew NOW. To find a membership form, go to our webpage at [www.ncmatyc.com](http://www.ncmatyc.com), and then go to "About NCMATYC". The membership application is a choice on the left and a hot link in the first paragraph. Open it, complete and print it, then mail it to Cathey Jordan along with your check! Her address is on the form. Also, please recruit new faculty to join!

Let me use this column to let everyone know that I plan to (and WILL if I don't die first!!) RETIRE on April 30, 2008. Hip, Hip, Hooray!!! As many of you recall, I had ovarian cancer in February of 2005. As I healed from the surgery and tolerated the chemotherapy, I realized that I had a lot of living that I planned to do after retirement...in 2011...and suddenly, that seemed far away. So I purchased some time from when I worked as an adjunct and that time has allowed an earlier retirement date. I am building a barn outside of Greenville, have purchased 2 wonderful horses, and plan to ride into the sunset (and the RETURN!!!)

I have thoroughly loved all of my many years in this organization. My school, Pitt CC, hosted the first conference and I have served for more than 6 years as the secretary/membership officer. I do not plan to remain active when I retire as I have many things to do and places to go. I will miss all of you and the many acts of friendship from you that I have enjoyed over the years. Please stay in touch!

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## Publications – How do you keep up? By Rob Kimball, Wake Tech CC



Every month, several, if not many, documents come to me in the mail or by email that I feel like I need to read. It is hard to keep up.

For example, the MAA is prolific with publications. The new **MAA Focus on being a mathematical citizen** is a must read (<http://www.maa.org/news/110507mathcitizen.html>) But then take a look at their "**Math Gateway**," WOW. (<http://mathgateway.maa.org/>) Of course the **CUPM Guide** has been out for a while, but it too is a must read (<http://www.maa.org/cupm/>) as is the **Voices of the Partner Disciplines** (<http://www.maa.org/cupm/crafty/>).

The MAA's most recent publication is **Algebra: Gateway to a Technological Future** (<http://www.maa.org/algebra-report/index.html>.) This is a report of a meeting called for by NSF to provide the Foundation with direction as they make decisions regarding support for changes to the algebra curriculum.

The **CBMS Report** is also out. It contains important statistics about mathematics education. There is a link to it from the AMATYC sight. Obviously, on the AMATYC site, you can also find **BC** and information about the **Right Stuff** and MACCCC.

The current issue of NCTM's **Mathematics Teacher** is also packed with good insight and ideas. It is a focus issue on mathematical discourse; full of thought provoking ideas on engaging students. "SO" you say, how do we keep up?

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Let me make two suggestions.

1. We need to get more members involved in making NCMATYC a strong organization. Create a committee that will submit reviews of important publications for the NCMATYC NEWS. This would be an important member service and promote professional development beyond the conference.
  2. If your department is large enough, assign publications to a team of faculty and have them give a report (verbally or in writing) to the rest of the department. If they've done that, then they can easily provide the NEWS with a short review.
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## **The Quality Enhancement Plan at Central Carolina Community College**



Educational institutions throughout the Southeast must reaffirm their accreditation every 10 years. A partial requirement of that reaffirmation is the Quality Enhancement Plan or QEP. For more than two years, Central Carolina CC has been working on the QEP by conducting focus groups and other types of research, publicizing the plan, and writing the official QEP document. The document was mailed in September 2007 for SACS review.

The first part of creating the plan was to decide on an overriding topic that was related to student learning. That process will be explored more next time. For now it's important to know that the identified topic is life skills. The college defines life skills as those foundational, transferable, and essential skills that enable learners to achieve academic, professional, and personal success. Therefore, the mission of the QEP is to develop and nurture a college environment that supports the learning of life skills. The title of our QEP is BASICS: Building All Skills in College Students. In a sentence, BASICS is a plan designed to help CCCC students acquire and apply life skills and become more responsible learners.

How will the college support the learning of life skills? First, skills will be embedded into instruction and services. Second, faculty and staff will participate in professional development sessions that are related to life skills. Third, the college will assess all project activities and adjust them as needed.

The one life skill chosen for implementation during the five-year BASICS project is communication. Communication is defined as an interaction between people, a process by which information is exchanged between or among individuals through a common set of symbols, signs, and behaviors. This includes both verbal (oral and written) and nonverbal. If BASICS is to be successful, an important student learning outcome must be achieved: Students must be able to demonstrate awareness of nonverbal communication behaviors, construct and deliver effective verbal messages, implement effective active listening through questioning and paraphrasing, and write with unity, development and coherence. Students will need ongoing instruction and constant practice throughout their programs to achieve this outcome.

An essential part of communication development is for students to be progressively challenged as they move through their programs. For example, a first semester student may be asked to recognize the basic principles of written communication, a second semester student may be tasked to support his ideas in writing, and a fourth semester student may be required to develop meaningful writing that responds to his audience. We call these different cognitive levels. By progressively challenging students to think at more difficult levels, a higher level of learning is achieved and graduates are better prepared for jobs, civic and family life, and virtually every interaction they encounter.



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For the Eastern and Western Regions Campus Representatives please visit  
[www.ncmatyc.com](http://www.ncmatyc.com)

Please consider submitting articles for the Spring 2008 edition of this newsletter.

*The deadline for the Spring 2008 issue is April 3, 2008.*

Articles for publication and comments should be submitted electronically to [dzemanek@email.pittcc.edu](mailto:dzemanek@email.pittcc.edu).