

# Department of Mathematics and Computer Science Newsletter



*An In-House Publication for Faculty and Staff in Georgia Southern's Department of Mathematics and Computer Science*

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Editor: Mary Margaret Hoy

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## Announcements

The date for the 10th GSU Mathematics Tournament has been set for JANUARY 24, 1998. Please mark your calendars.

## Professional Activities

**Martha Abell** presented "Projects in Undergraduate Mathematics Courses," a paper written with **Lisa Norton** and Stuart Davidson, at the Southeastern Atlantic Section of SIAM (SIAM-SEAS) on April 5, 1997, at North Carolina State University. She was also elected to the position of secretary-treasurer/president-elect of SIAM-SEAS. She asks that anyone wanting to know more about SIAM-SEAS contact her. Next year's annual meeting will be in March at Florida State University.

**Sharon Barrs, Debbie Evans, Cynthia Sikes and Debbye Stapleton** presented "Wetland Wonders Project" at the annual meeting of the Georgia Academy of Science held in Carrolton, GA, at the State University of West Georgia on April 25, 1997.

**Rose Mae Bogan**, as Chair of the Science Education Division of the Georgia Academy of Science, presided over both sessions on April 25-26, 1997, and attended the State Council Meeting at the State University of West Georgia, Carrolton, GA.

**Rose Mae Bogan** gave a presentation, which was written by Rose Mae Bogan and **Pamela Watkins**, "The Pros and Cons of Using the Graphing Calculator in the Remedial Classroom" on April 26, 1997, at the Georgia Academy of Science, State University of West Georgia, Carrolton, GA.

**Lydia Bragg, Don Brown, Wendy Habegger, Janet O'Brien and Mary Sikes** attended the Learning Support/Developmental Studies Conference in Augusta, GA, held April 20-22, 1997.

**Jane Cason** presented "Graphing Calculator Activities for Mathematics Learning Support Classes" at the Learning Support/Developmental Studies Conference in Augusta, GA, held April 20-22, 1997.

**Jane Cason and Carol Nessmith** presented "Faculty Feud — Effective Teaching and Effective Strategies" at the Learning Support/Developmental Studies Conference in Augusta, GA, held April 20-22, 1997.

**Ellen Fischer** attended the American Association of University Women of Georgia's state convention as one of the branch

delegates for the Statesboro branch. It was held in Savannah on April 11-13. The branch won 7 stars out of 7 at the state level for efforts in leadership, publicity, community service, and giving to the AAUW foundations. Ellen was also elected to serve as Program VP for the branch for the next year at its April meeting.

**Dale Gibson** presented a talk entitled "Who Uses Algebra -- Magicians or Mathematicians?" at the Learning Support/Developmental Studies Conference in Augusta, GA, held April 20-22, 1997.

**Cindy Gonzalez** and **Susan McKinnon** attended the 1997 Georgia Conference on College and University Teaching at Kennesaw State University on May 17 where they participated in a grant showcase hosted by the Board of Regents for their grant work, "Using the TI-92 to Teach Calculus over a Distance Learning Network."

**Wendy Habegger** and **Mary Margaret Hoy** received the AAUW State Bulletin Award as co-editors of the Statesboro AAUW branch newsletter, 'Boro Bulletin.

**Patricia Hale** attended the NCTM Conference in Minneapolis, MN, held April 17 - 20, 1997.

**Xiezhang Li** published a paper titled "A Uniform Error Bound for the Overrelaxation Methods," in *Journal of Linear Algebra and Its Application*, 254:315-333(1997) in March 1997.

**Bruce McLean** attended a one-day Java workshop sponsored by Addison Wesley held at Clemson

## Problems of the Month

### April Problem of the Month

Submitted by **Bill Meisel**

Factor  $x^5 + x + 1$  using only integer coefficients.

Solution: The answer is  $(x^3 - x^2 + 1)(x^2 + x + 1)$ . One way to do this is by writing the expression as  $[(x-1)^5 - (stuff)]$  and then factoring by grouping. Another method is to solve an equation along the lines of  $x^5 + x + 1 = (x^3 + qx^2 + rx + s)(x^2 + tx + v)$ . Shame on you if you just threw the expression into *Mathematica*.

Alternate Solution Submitted by **J. Walter Lynch**:  
 Let  $P = x^5 + x + 1$ . Add and subtract  $x^4 + x^3 + x^2$ .  
 Then  $P = x^5 + x^4 + x^3 + x^2 + x + 1 - (x^4 + x^3 + x^2)$ .  
 Or  $P = x^3(x^2 + x + 1) + x^2 + x + 1 - x^2(x^2 + x + 1)$ .  
 Hence,  $P = (x^2 + x + 1)(x^3 + 1 - x^2) = (x^2 + x + 1)(x^3 - x^2 + 1)$ .

The answer to this problem was also submitted by **Gerald Shultz** and **David Stone**.

### May Problem of the Month

Submitted by **Bill Meisel**

Without any computations, prove that there exist numbers  $a$ ,  $b$  and  $c$  such that

$$\begin{cases} 100a + 10b + c = 18.37 \\ 36a + 6b + c = 0.05 \\ 4a + 2b + c = -3 \end{cases} .$$

Do not find  $a$ ,  $b$  and  $c$ , just prove they exist. (Do not use determinants.)

I don't know the answer to this one though I'm sure there is a clever, simple one. Any takers?

University on April 11, 1997. The keynote speaker was Ken Arnold of Javasoft.

**Arthur Sparks** represented the Department at the Winter Open

House held Saturday morning, March, 1, 1997, and at the Spring Open House held Saturday morning, April 12, 1997. The Faculty Interaction Session was held 9:30 - 11:30. At these sessions, prospective

students and their families meet with various representatives and ask questions in their area(s) of interest.

**Arthur Sparks** attended the Southeastern Section meeting of the MAA held in Atlanta on March 14-15, 1997. Arthur received a Professional Travel Grant to attend the meeting.

**David Stone** attended the recent MAA Southeastern Section meeting in Atlanta, his last meeting as Governor of the Section. In addition to officer duties, he spoke as a member of the panel "Professional Development Issues Concerning Young and Future Faculty".

**David Stone** attended SERMON (the SouthEastern Regional Meeting

On Numbers) at the University of Georgia campus on April 11-13. He and Ken Spackman of UNC-Wilmington gave a talk "Problems on Visible Lattice Points." This annual number theory conference migrates through the Southeast; this year's had an interesting sponsor. A businessman/amateur mathematician in Atlanta sent a "proof" of Fermat's Last Theorem to Andrew Granville (of UGA), who is an expert in this area. Andrew carefully read the manuscript and found the error in the proof and wrote a response. The fellow was so happy with Andrew's help that he offered to pay him; Andrew demurred, but was happy to accept some books instead. Then the man sent another proof, which Andrew again critiqued and corrected; this time the fellow

donated a sum of money to the UGA Math Department, sufficient to pay for some meals and coffee breaks for 50+ number theorists!

**David Stone** attended the recent meeting of the Advisory Board of the Georgia Coalition for Science, Technology and Mathematics Education, held at SciTrek in Atlanta. The speaker was Dr. Peggy Torrey, who is in charge of teacher certification in Georgia.

**Lisa Yocco** presented "Easing the Transition From Developmental to College Mathematics" at the University System of Georgia's Annual Learning Support Conference in Augusta on April 21, 1997.

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## Search Committee Update

Submitted by **John Rafter**,  
Search Chair

At this time there are no further campus interviews scheduled. We have had visits from seven outstanding candidates, and I want to publicly thank everyone who made their visits a great success. For your hard work and for going above and beyond what was required, thanks to the Search Committee members: **Mark Aulick, Jim Braselton, Charles Champ, Goran Lesaja, Xiezhang Li, and Donna Saye**. In addition to their work of reviewing and carefully evaluating 60 candidate folders and calling references for semifinalists, each member of the search committee acted as host to at least one candidate. Also, thanks to the membership of the Social Committee (**Jane Cason, Wendy Habegger, Joy Darley, Rosalie Abraham, Deloris Hodges and Dale Gibson**) for preparing and hosting the receptions. As some of you may know, the receptions are my favorite part of the interview process. Finally, thanks to everyone who took time out of their busy schedules to meet and talk with the candidates, to go out to eat with them, and to attend their talks. It is a real honor to work with such a great group of caring and committed folks.



## MAA Student Chapter News

Submitted by **Martha Abell,**  
**Jim Braselton, and Lisa Norton**

The MAA Student Chapter would like to thank **Lisa Yocco** for presenting "Competition in the Telecommunications Industry: An Illustration of Markov Chains" at our April 24 meeting. We look forward to at least two more presentations this quarter as **David Stone** and **John Davenport** have volunteered to speak to the group. Watch for announcements. We also ask you to encourage your students to attend our meetings even if they are not members of MAA. We are losing most of our members to graduation this year, and we need to start building for next year. We appreciate your help.

Several student chapter members will be attending graduate school next year: Dawn Laning, UGA (Math Ed); Afif McGlamry, Ga. Tech (Math, received a Dean's Fellowship in addition to his assistantship); and Sandy Bonfim, Ga. Tech, Ga. State, UFL, or Clemson in Business or Health Systems.

## Miscellaneous News

**Rose Mae Bogan** has another grandchild! Hunter Christian Berger was born on March 24, 1997, in Starkville, Mississippi, to LaMont and Joan Masters Berger.

Sandy Bonfim, a senior math major, is a recipient of this year's GSU Scholar Athlete award. Sandy has been Captain of the Lady Eagles Soccer Team for four years and is an outstanding young woman.

Statesboro High School attended the state Science Olympiad at Georgia Tech on Saturday, April 5. Clint Ricker and Harry Hu won first place in the event "It's about time" in which they measured time without any commercial instrument. Earlier this year the team attended the regional Science Olympiad and won second place, (which qualified them for the state level competition), and Clint and Harry won first place in two events.



Happy  
Birthday!



## May Birthdays

**Anne Pierce** 13

**Lisa Norton** 17

**Dennis Raith** 19



Happy  
Birthday!

