

## FROM THE CHAIR

Congratulations to our spring graduates! Quinton Westrich will graduate with the MS in Mathematics degree. Amy Forgey, David King, Kimberly Tidman, Daniel Wilkerson, Jonathan Jones, and Craig Calcagno expect to earn the BS in Mathematics degree.

In related news, I want to publicize a few recently approved changes to the BS in Mathematics curriculum. The faculty approved these changes in hopes of increasing enrollments in upper-division course offerings and easing the transition from other majors. In particular, the foreign language requirement has been removed, the statistics requirement has been tightened, the natural science requirement has been relaxed, and the requirement of Advanced Calculus II in the absence of the probability and statistics sequence has been dropped. These changes will take effect in the fall 2010 catalog.

In future, instead of being able to choose one of three statistics courses (Math 3070, Math 3470, or Math 4470), a student must take Math 4470-Probability and Statistics I. Effective in the fall, a student will be allowed to meet the natural science requirement by taking any of the following sequences: ASTR 1010-1020, BIOL 1010-1020, BIOL 1110-1120, CHEM 1010-1020, CHEM 1110-1120, GEOL 1040-1045, or PHYS 2110/11, 2120/21. The last course sequence listed, Calculus-Based Physics I and II, along with the corresponding labs, is the one recommended by the mathematics faculty. The requirement that Advanced Calculus II must be taken by students who do not complete the Math 4470-4480 Probability and Statistics sequence has been removed. The mathematics faculty also approved the pairing of Math 3430-College Geometry and Math 4310-Topology I as an upper-division sequence in pure mathematics. These changes will automatically apply to freshman entering the program in fall 2010. Current mathematics majors may choose to graduate under these new degree requirements by opting to use the fall 2010 catalog requirements when applying for graduation. If you have any questions about degree requirements, please stop by the departmental office or set up an appointment with your advisor.

Good luck on your finals.

## MATH CLUB NEWS



*Before*



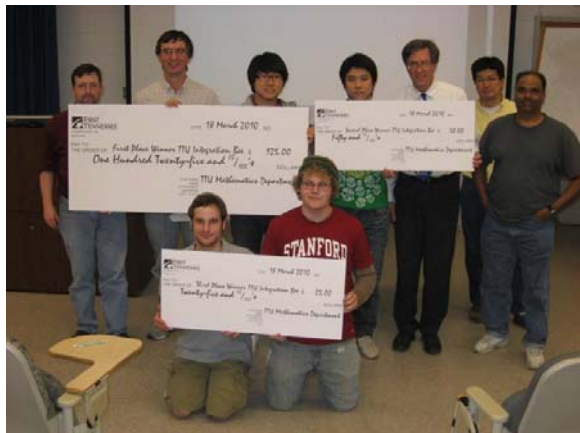
*After*

**Pi Day** – March 14, 2010, celebrated by TTU Math Club on Tuesday, March 16, 2010. Eight math professors volunteered to potentially get a pie in the face. Collection cans were placed in the Math Department office and money was collected for the Red Cross Haiti Relief Fund. The faculty member with the most money in his/her can received a pie in the face in honor of Pi Day. The Math Club raised a little over \$290. The winner of the pie in the face was Dr. Sam Narimetla with \$90.07 in his can. Professors who participated in the fund raising activity were Mr. Troy Brachey, Dr. Amy Chambers, Dr. Andrew Hetzel, Dr. Allan Mills, Dr. Sam Narimetla, Dr. Jeff Norden, and Dr. Brian O'Connor.

Math Club t-shirts designed by Dr. Amy Chambers were purchased by several math club members, students of math and math professors. Dr. David Smith is seen below modeling one of the fashionable shirts.



## INTEGRATION BEE



(l-r front row) Joshua Pyle, Stephen Graves  
(l-r back row) Mr. Tommy Elliott, Dr. Richard Savage,  
Seok-Jung Yoon, Shun Chun Yang, Dr. Brian  
O'Connor, Dr. Motoya Machida, Dr. Sam Narimetla

The TTU Department of Mathematics hosted the annual Integration Bee on March 18, 2010. With the support of First Tennessee Bank, we awarded a \$125 first place prize, a \$50 second place prize, and a \$25 third place prize. This year we also awarded an additional third place prize of \$25 donated by TTU faculty who helped conduct the contest.

Many thanks to Rick Le Borne, Brian O'Connor, Tommy Elliott, Motoya Machida, Sam Narimetla, and Yung-Way Liu for their efforts in staging the Integration Bee (and for donating money to resolve the 3rd place standoff). The winners were Seok-Jung Yoon (1st place); Shun Chun Yang (2nd place); Stephen Graves (3rd place); and Joshua Pyle (3rd place).

## MATH MAJOR GRADUATES

The Department of Mathematics has several students graduating this semester with bachelor and master degrees. We would like to congratulate all these students on their accomplishments and commend them for the hard work they have put forth to complete their degrees.

Students graduating with a Bachelor of Science in Mathematics are Craig Calcagno, Amy Forgey, Jonathan Jones, David King, Kim Tidman, and Daniel Wilkerson.

Quinton Westrich will be graduating this semester with a Master of Science in Mathematics.

## HONORS NIGHT



(l-r) Dr. Allan Mills, Rebecca Paul, Andrew Starnes,  
Erika Residori, Daniel Wilkerson, Forrest Garwood

On April 12, 2010, the College of Arts and Sciences held their annual Awards Evening. Dr. Allan Mills, chair of the Department of Mathematics presented the following math awards: Rebecca Paul (RH Moorman Award and The Stanley Erwin M.D. Scholarship), Andrew Starnes (The Grateful Heart Scholarship), Erika Residori (Dr. & Mrs. S.A. Patil Scholarship), Daniel Wilkerson (S.A. Patil Mathematics Award) and Forrest Garwood (The Stanley Erwin M.D. Scholarship).

## STUDENT RESEARCH DAY



*Matt Bedford with his presentation for Student Research Day.*

Two mathematics majors, Matthew Bedford and Brandy Spears, presented posters at TTU's Student Research Day held on April 15, 2010. Matthew Bedford, under the supervision of Dr. Sabine Le Borne, is researching the use of iterative solvers to approximate solutions to large systems of equations resulting from numerical models. He presented a poster titled, "Induced Dimension Reduction as an Iterative Solver."

Brandy Spears and Jarret Smith researched the fidelity of implementation of a grant to study the effects of teaching with tablet computers. They completed a literature review, interviewed both faculty and team members at Tennessee Tech, and reviewed records of student access to recorded lectures. Brandy and Jarret reported on the degree to which the research implementation was consistent with the research design described in the grant proposal.

## **MATHEMATICAL CONTEST IN MODELING**

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*(l-r) Dr. Andrew Hetzel, Daniel Wilkerson, Andrew Starnes, Ryan Pavlovsky*

Three TTU students participated in the 26<sup>th</sup> annual Mathematical Contest in Modeling sponsored by COMAP, the Consortium for Mathematics and its Applications. Over 2254 teams representing institutions from 14 countries participated in this year's contest. The team from TTU consisted of two mathematics majors, Andrew Starnes and Daniel Wilkerson, and one chemical engineering major, Ryan Pavlovsky. Dr. Andrew Hetzel volunteered his time as faculty advisor for the team.

The contest was primarily online and teams obtained contest materials and downloaded the problem and data at a designated time through the COMAP website. Teams could choose one of two problems to solve. The TTU team chose Problem B, "Criminology", written by Michael O'Leary of Towson University and Kelly Black of Clarkson University. Both were also final judges.

After submitting their solution to the problem, the TTU team was notified that they had been designated as Meritorious Winners which ranks them in the top 20% of participating teams. Congratulations! More information on the contest can be found at this website [www.mcmcontest.com](http://www.mcmcontest.com).

## **INTERVIEW WITH ROOSA KAUKONEN**

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Dr. Richard Savage: Today we are interviewing Roosa Kaukonen, a math major from Finland. How long have you been here?

Roosa Kaukonen: I came in August.

Dr. Savage: Were you in university in Finland before this?

Roosa: Yes, I studied three years in the University of Turku.

Dr. Savage: Turku, is that a city?

Roosa: Yes, Turku is my home city.

Dr. Savage: Is that on the coast?

Roosa: Yes, southwest coast.

Dr. Savage: I think I've seen that on the map. It's a much bigger place than Cookeville.

Roosa: Yes it's like 115,000.

Dr. Savage: Yes, I would have thought so. But, you decided you didn't want to go to a city over here though. Right?

Roosa: Yes, I guess I've been in the city in my life so I wanted something different.

Dr. Savage: How would you compare studies there to studies here?

Roosa: We usually have just one final in the class. Every class has two lectures and one exercise class.

Dr. Savage: You mean you just have the final and your grade depends on whether you pass the final instead of having all the intermediate scores.

Roosa: Yes.

Dr. Savage: That's quite a difference.

Roosa: Yes

Dr. Savage: Difficulty wise is it similar?

Roosa: It depends on the classes, but I think it is similar.

Dr. Savage: What sort of courses were you taking then at the university there before you came here?

Roosa: Well, I studied three years so of course I've taken the calculus classes. Then last year I had graph theory and coding theory.

Dr. Savage: Are the course offerings there similar to here? I know calculus is the same everywhere pretty much.

Roosa: Yes. We have numerical analysis and number theory. It's quite the same. It depends on the year of course.

Dr. Savage: In the system there is it like here do you have a major subject?

Roosa: Yes, I have a major which is math and then minors in computer science, and in something else...

Dr. Savage: How long do you expect to be here?

Roosa: I'm going to be here two semesters.

Dr. Savage: You'll be finishing your work there for your degree?

Roosa: Yes.

Dr. Savage: Is the size of classes similar? Can you compare the sizes of classes?

Roosa: I think they are. It depends on the class, but usually they are.

Dr. Savage: When you studied calculus there was it in a big lecture?

Roosa: Yes, in an auditorium or something like that.

Dr. Savage: I guess here the university is more than just academics. It is a social center as well. Is that the case where you were or was it different?

Roosa: No, it's different. For example, the university doesn't have a residential place. The university is just for study.

Dr. Savage: Well I thought it might be that way. So that's quite a big different from the system here.

Roosa: Yes.

Dr. Savage: Had you been here in the states before coming?

Roosa: No.

Dr. Savage: So first trip. Have you had an opportunity to see much around?

Roosa: Yes, I have time to travel now and then. I've been to New York, Washington, D.C., and here in Tennessee. I'll try to travel somewhere else and see some places.

Dr. Savage: And see some of the sights?

Roosa: Yes.

Dr. Savage: Back to the subject of your studies there. Of course, here especially the first year students must take courses, many subjects such as English requirements, history requirements and all this and that, that I know in some places might be thought of more as what might be equivalent of high school. Do you have similar studies in your university there?

Roosa: No. We don't have that.

Dr. Savage: You just work with your major and minors? So it's more specialized.

Roosa: Yes, when you go to university you have to choose what you want to study.

Dr. Savage: Are there tests to qualify for the university?

Roosa: Yes you might have some exams in high school, but there's one test in your major area.

Dr. Savage: So, a person trying to study some other subject would have a different test. Is that right? You wanted to study mathematics, but say a person wanted to study history so they would be taking a different exam to qualify to go on.

Roosa: Yes.

Dr. Savage: I see. Your degree program from when you started, how long should it take?

Roosa: It's a five year program to the master's degree. Just a few years ago we didn't have a bachelor's degree. Now we have it, but still you can take graduate level classes. There's no straight line to the bachelor's undergraduate degree.

Dr. Savage: So this is a master's degree that you'll be getting?

Roosa: Yes

Dr. Savage: And you have plans after that?

Roosa: Nothing after that. I don't know what I'm going to do after that.

## UPCOMING EVENTS

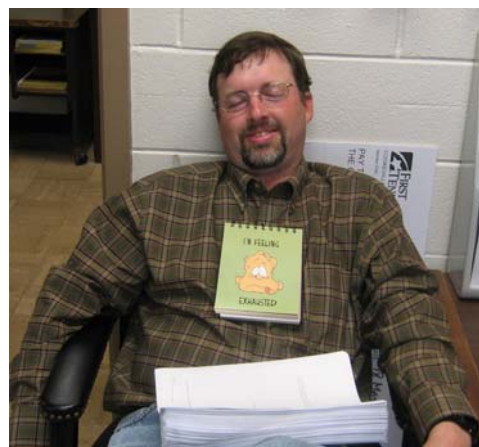
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### Graduation Commencement Ceremony

Hooper Eblen Center  
Saturday, May 8 at 10am

### Millard Oakley STEM Center Grand Opening

Ray Morris Hall  
Friday, May 7th at 1:30pm



*Mr. Tommy Elliott resting after an exhausting semester.*