

FROM THE CHAIR

Spring semester often seems to be more hectic than fall semester and that was certainly the case for the Mathematics Department this academic year. In February, in accordance with the Tennessee Higher Education Commission's performance review guidelines, the department's degree programs were reviewed. Degree programs are reviewed every five years to ensure that they are kept current, that academic standards are maintained, and that overall quality is at a high level. Dr. Deanna Caveny of the College of Charleston and Dr. Richard Millman of the University of Kentucky visited the department this spring to review our undergraduate and graduate programs, respectively. They were impressed by our students and concluded that our programs are highly effective.

It is easy to see why Dr. Caveny and Dr. Millman were impressed by the TTU mathematics students. In addition to your usual academic obligations, many of you participated in extracurricular activities such as the COMAP Mathematics Modeling Competition, TTU Student Research Day, the Integration Bee, and the various Math Club events. In April, the Ice Cream Social and the seminar presentation, "How Nature Chooses its Shape: The Mathematics of Soap Films," by visiting lecturer Dr. Michael Wolf provided a nice respite from final exam preparations.

Although the spring semester has a frantic pace, its conclusion is a gratifying time for faculty. We get to honor some of TTU's best students during the college's Honors Evening and share the joy of our graduating students. This spring we have 6 undergraduates receiving the BS degree in mathematics and two graduate students earning the MS degree. Congratulations to each of you and best of luck in your future endeavors. The total of seven BS graduates for the academic year is the highest total we have had in 15 years!! Congratulations and best wishes are also in order for Dr. Claude McHenry who, after 30 years of service to TTU, retired at the end of the spring semester.

INTERVIEW OF RICHARD SAVAGE

conducted by Brian O'Connor on April 22, 2008

Richard Savage Jr. is a Professor in the Department of Mathematics at Tennessee Tech. He graduated from TTU in 1975, received his Ph.D. from the University of Utah in 1981, and began teaching here in 1982. He was interviewed by Associate Professor Brian M. O'Connor.

BMOC I suppose of all the faculty members here, you were the one who we could say grew up in the department. Tell us about that.

R.S. Yes, that would be true, because my dad came here to take a position in the department. That would have been in

1962 and I was nine years old at the time, so I've been fairly familiar with the department since then

BMOC Where was the department located at that time?

R.S. It was on the top floor of Derryberry Hall. I remember Dad's office and most, if not all, of the faculty were on the top floor. I don't really know when they came over to Bruner, but it would have been pretty soon after that time.

BMOC In addition to the Math Department there was also Music and the Administration.

R.S. Well, the campus wasn't very big.

BMOC What was Tech like back then?

R.S. Well, pretty much you just had the old buildings, the ones near the Quad. As far as classroom buildings, I think that was it. Quite a few of the dorms were already up by that time. Some of them have been demolished since that time, but there were quite a few dorms. There were quite a few temporary wooden buildings scattered around. Some of these were used for classes and some may have been offices. I think there was a large section that may have been used for married housing. All of these old wooden buildings are gone. There was Tech Farm. There were cattle roaming around. I think that was about where the library is now or part of that. But, the campus was much smaller and much different looking.

BMOC What was Cookeville like?

R.S. Oh, you know I have trouble thinking back to that so much, but one of the things I remember most that has changed is the restaurants. You know Cookeville's loaded with restaurants now, but at that time there weren't very many at all. I mean there were a handful, but a lot of them that were here didn't stay. Shoney's may have been here. It's been there for a long, long time. And, what is now Nick's has been there a long time although I don't know if it's been there since '62, but it's been there a long time. It was certainly there when I was an undergraduate student. There was one theater on the west side, the Princess Theater. There was grazing land and cattle in Cookeville even some years after that. Right across from where Kroger is now or diagonally across used to be cattle on that hillside.

BMOC There wasn't much south of the square before the interstate came through.

R.S. No, not very much. A little. The interstate came through about the time we moved here. I think they may have already had part of it up and there may have been a little bit built down there even in '62, but not very much. It was a small, quiet, little town really.

BMOC And you went to school at Tech?

R.S. Yes.

BMOC Who were some of your teachers?

R.S. Well, I first came over here to take a class when I was still in high school. That was when I was in the 11th grade, and my first class was a senior level geometry course from Jim Doran. He was quite good. I enjoyed the class and learned a lot of geometry. After high school graduation in 1970 I started here in the summer. Well, some teachers stand out. Dr. Swong was one of my favorites. I had him for Advanced Calculus and also for number theory. I think Dr. Swong had well-prepared notes that he would bring to class. He would set them on the desk and maybe he looked at them, but I never recall him ever looking at them. He would just start writing, and I don't think he referred to them. He would just go and go and go. We were all impressed with Dr. Swong. He didn't think much of the two-hour time slot for final exams or he never paid attention to it. In Advanced Calculus our final always started at eight o'clock. Dr. Swong would bring the test in, give it to us, and then he would go to his office and say bring it to me when you get done. I never got done before noon. But that was all right. I mean, we just knew that Dr. Swong's test would take awhile. And when he would give us a take home test during the semester I knew that I had about 30 hours of work coming that week on Dr. Swong's test. I thought very highly of Dr. Swong; he was very good.

I had my dad for Modern Algebra and History of Math. Dad was quite good too. Dad was really different from Dr. Swong. He engaged the class a lot more. He had us going to the board a lot, and that was good. He was very patient, maybe too patient. Sometimes if nobody had solved a problem, he would say that we would just save the problem. But anyway, Dad was good and I enjoyed his classes. Those are two of my favorite teachers. I had Steve Khleif for Differential Equations. He was good, but he was the opposite of Dad. Dad was really patient and Dr. Khleif was not at all. He'd have us put problems on the board, and if you said you didn't have a problem done, he would ask you why not. I remember one time, I didn't have a problem, and he said put it up anyway. So, he pushed us, but he was good. Those are the three that stand out.

BMOC And you won the math award while you were here.

R.S. Yeah, I think I shared it with more than one. But I did with the highest grade average in math. I think several of us were tied as it was.

BMOC And after you graduated Tech you went to the University of Utah? Is that right?

R.S. Yes, that's true. When I was an undergraduate I spent a lot of my summers backpacking and bicycling, and I had done a couple of bicycle trips out west, including one from Mexico to Canada. For no particular good reason mathematically, but just because I liked the west, I wanted to go out west for graduate school. The University of Utah was good and they paid very well on their assistantships and that was attractive, so I ended up there.

BMOC And you got Masters and Ph.D. there?

R.S. I did. The Masters they just sort of gave you as you went along. I was there for six years.

BMOC And then you taught at Moorhead State?

R.S. Moorhead State in Minnesota. Yes, like a lot of people finishing up school, I sent out applications to a lot of places. I had an interview at Moorhead (it's next to Fargo, North Dakota), and I liked it, so I was there for a year as it turned out.

BMOC Then you came to Tennessee Tech?

R.S. Yes.

BMOC Tell us the story about how you got hired here.

R.S. It's a strange story. Well, of course, Tech had been among the 80 or 90 schools I had applied to after getting my Ph.D. And I wasn't really looking for another job when I was in visiting family at Christmas time. Dad said, "Let's just go into the math office and talk to Ed Dixon." He was the new chairman. There had been a change in the chairmanship since Dad's previous year. And I guess with the change in the chairmanship there were some changes in the direction the department wanted to take. I don't guess they had been interested in my application previously, but now they were with the new chairman. He just activated my whole application; I didn't really apply again. And I had an offer even though I didn't come to interview, unless you would call what we did at Christmas an interview. But I got an offer to come to Tech, and after some deliberation I ended up accepting.

BMOC As I recall, you had to let the people at Moorhead know your intentions for the following year and we got down to the deadline. I think the only reason that we were successful in hiring you is because Ed Dixon walked the papers around to every office for which he needed signatures, found everybody there, and got the signatures just in time to make the offer to get you to come here.

R.S. Hmm. I'm not sure I knew all that. Well, Ed really worked hard at it.

BMOC You came to Tech in 1982. What changes have you seen over the years at Tech in the 25 years now that you've been here in terms of students, technology, and curriculum?

R.S. Well, curriculum I would know the best because my first year here I was at one faculty meeting and made quite a few suggestions about the curriculum. My proposals drew quite a mixed response and because of that we formed a department curriculum committee and it wasn't long before I got put in as chairman, I guess as the reward for suggesting these things. So, I ended up being the chairman of the curriculum committee for over 20 years. It's a job easier gotten than gotten rid of. So, with the curriculum there have been quite a few changes. Of course, we went from quarter system to semester system along the way. But with the math major now I think there's quite a bit more depth to it than there was when I was a student, or when I came here as a faculty member. For a math major on the old quarter system you didn't have very much math until you were a senior. You went through differential equations in your first two years. One quarter you didn't have anything in the required curriculum and junior year just one sequence. So, it's been about 12 semester hours added to what a math major takes as opposed to the time that I was a student. There are some new courses that I had a hand in. One is the course that is now Math 3400. I think we

have a stronger program than we did back then. You know times have changed. When I was an undergraduate everyone had a slide rule. All of us students would carry a slide rule on their belt like they have cell phones now. I don't remember when calculators came in. I know as a graduate student I had one; I don't think I ever did as an undergraduate. What our students use today as technology is just totally different from what it was. We've gone from slide rules to calculators and computers. That's a huge change, but I think the program, you know, is still sort of a traditional math major despite the changes.

BMOC You mentioned when you were out west that you liked hiking. I know you hike quite a bit. Tell us about that and some of your exploits in that regard.

R.S. Yes, I've done a lot of hiking all over. I've been down to the bottom of the Grand Canyon three times and across it once and climbed some of the 14,000 foot peaks in Colorado, five of them. Hiked in Yosemite, Bryce Canyon, Yellowstone, the Tetons, sort of all over out west. And, of course, quite a bit back here. But, I am very familiar with the trails and all around here and then starting in 2001, I started taking some trips to Australia and the Heysen Trail there, which is Australia's longest trail at over 700 miles long. I was the first American to hike it end to end. I have now done it twice, and I'm looking forward to doing some more hiking in Canada, Australia, New Zealand, and elsewhere. I haven't made it to New Zealand yet, but that's coming before too long.

BMOC One thing I know that you have is a Christmas tree farm. Tell us about that. How you got started, what it takes to run a Christmas tree farm, and any other interesting aspects.

R.S. Well, that's part of Dad's influence because Dad started Christmas tree farming quite awhile back. I think it was when I was in graduate school. So, about six years after coming back to Cookeville, we bought a farm outside of town and I thought I might as well do something with it and with Dad and his Christmas trees I thought of doing that, and thought that would be fun. I think it was 1989 I planted the first Christmas tree. It's an interesting kind of farming. You have to mow in the summer and you have to trim the trees in the summer, plant early spring or late winter and then, of course, from Thanksgiving to Christmas you have to be there about as much as work schedule will permit to meet customers. On my farm, customers come to the farm and they pick their own tree and cut it down or I cut it down, whatever they prefer. The selling time is the most fun because it's sort of a social event now. I see people coming back that I've seen for years.

Now maybe they have grown children, and when they started coming they had little children. So, I've met a lot of people through the trees. I enjoy doing it.

BMOC Any interesting aspects of it? Something you would not expect?

R.S. I guess one thing that continually surprises me is that the size of the trees that people pick, as opposed to what they say they want. People will come out and they'll say, "I want a six foot tree." And, 80 or 90 percent of the people who say they want a six foot tree will come back with an eight foot. I don't know why this is. Some people can really judge. Some people come out with a tape measure. But there are lots of people that misjudge the size of trees and it happens every year. I'm always amazed by that.

BMOC I know you're a baseball fan and I sometimes wonder if you're Cookeville's only Angels fan, California, Los Angeles, Anaheim, whatever they want to call themselves. How did that come about?

R.S. I don't know if I'm Cookeville's only one or not. I guess it's a rare breed here. Well, let's see how did that come about? I took an interest in baseball in 1960 during the Pirates-Yankees World Series when Bill Mazeroski hit the home run to win it for the Pirates. That's the first time I really paid any attention to baseball. It was the next year that Maris made his charge on Babe Ruth's homerun record. I didn't have a favorite team, but there was this new team, the Los Angeles Angels that started in 1961. Their second year, they were surprisingly good for an expansion team. I think they like finished fourth or something. I just started cheering for them for no other reason than that and I've cheered for them ever since.

BMOC Tell us a little bit about your family.

R.S. Well, I've got two sons. They're both in town. One of them's a recent TTU graduate in web design and another one hopefully is graduating in not too long in sociology. I've got three brothers and sisters scattered across the state. Some of them are local as well. My parents are still here. Dad's doing pretty well; he doesn't do too much on Christmas tree farming now, just a little bit. He won't do anything at all on helping me with my math. I offered to let him grade tests, but he won't do it. Dad and I were in the department together for a number of years. I came here in '82 and Dad didn't retire until '92, so we overlapped. We confused the students. They didn't know which one they were getting. Dad would tell him he was the nice one and the other one was the rough one, and I guess that kept them straight.

CONGRATULATIONS!

Congratulations to our **Scholarship and Award winners**: S.A. Patil Senior Math Award—*Staci Daniel*; R.H. Moorman Award—*Daniel Wilkerson*; Grateful Heart Scholarship—*Amy Forgey*; Stanley Erwin M.D. Scholarship—*James Sunkes*; Dr. and Mrs. S.A. Patil Scholarship—*Kim Tidman*; Graduate Student Teaching Award—*Troy Brachey*; Stanley Dolzycki Memorial Scholarship—*Brad Schwer*.

Congratulations to the **winners of the 6th annual Integration Bee**: 1st place—*Christy Bowers*, 2nd place—*Aaron Hogancamp*, 3rd place—*Seth Pemberton*. They each won cash awards generously provided by the First Tennessee Bank.

MATH CLUB NEWS

Our first Math Club meeting of 2008 was on Thursday, February 14. Lieutenant James Paffenroth from Navy Officer Programs came to visit, bringing pizza and drinks with him. He gave a presentation about opportunities for math majors in the Navy, including the potential for some very exciting careers in this area, particularly in the Navy's Nuclear Power program. He also related some of his personal experiences in the Navy.

Our second meeting was on Thursday, March 27. Corbett Coburn came to speak to us about opportunities for Math and Computer Science graduates in national defense, the law, the Patent Office, and gaming. Corbett spoke with us last year as well, and the students enjoyed his talk so much that they requested that he come back to see us again. He currently works with the U.S. Patent office, although he has had numerous past experiences that he shared with us also. We enjoyed hearing about the unique opportunities for math majors that he presented, and we particularly enjoyed stories he shared from his own diverse experiences in and out of the Patent Office. Also, let us not forget, we ate pizza!

In addition to our meetings this semester, our officers designed colorful t-shirts displaying the fact that we love math, and that "With math, the possibilities are infinite." Many thanks to those involved with the t-shirt design.

To end the academic year, we had a picnic at Hidden Hollow

on Saturday, April 12. We ate, played miniature golf, and enjoyed the scenery.

RANDOM NEWS

Dr. Richard Le Borne won the 2008 Outstanding Faculty Award in Teaching, and will be honored at the Spring Commencement. In support of his nomination, student Zachary McDaniel described Le Borne as "not your ordinary teacher—he is something far greater. He focuses on the knowledge and understanding, not the answer." This recognition marks the second consecutive year that the Department has had a winner of the Outstanding Faculty Award in Teaching, following Dr. David Smith's selection in 2007.

Mr. Troy Brachey will be joining the department next year as a tenure-track instructor. Troy will be receiving his master's this Spring. His graduate adviser was Dr. Rafal Ablamowicz.

Joseph Schutte graduated with a B.S. degree in Mathematics in December, Stephenie Brown, Staci Daniel, William Kilgore, Kyle Smith, and Quinton Westrich received their undergraduate Mathematics degrees in May.

Troy Brachey and Seun Akinwumi graduated with Masters degrees in Mathematics in May.

Quinton Westrich, William Wilhoite, and Che Ngufor participated in the Student Research Day. Quinton and Che won Student Research Day awards.

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Winners of the Outstanding Faculty Award in Teaching from the Mathematics Department



Dr. Richard Le Borne
2008



Dr. David Smith
2007



Dr. Allan Mills
1999



Dr. Brian O'Connor
1985 and 1998