TCU Math News Letter

Volume 11, Number 1 September 2002

In mathematics you don't understand things. You just get used to them.

--- John von Neumann

[Editor: Dr. Rhonda Hatcher](#) and [Archive of Newsletters](#)

TCU Research Lectureship to Begin on Tuesday, September 10

Professor Brock Williams of Texas Tech University will be the first speaker in the 2002-2003 TCU Research Lectureship series. He will present the talk "Circle Packings: Analysis, Geometry, and Applications," in which he will discuss some recent work on circle packings and applications such as creating flat maps of the human brain. The talk will be suitable for undergraduates. The talk will begin at 4:00 p.m. on Tuesday, September 10, in Tucker Technology Center 138. Refreshments will be served in Tucker Technology Center 300 at 3:30 p.m.

The TCU Research Lectureship is sponsored in part by Mr. Frank W. Stones. This academic year, the lectureship will feature eight guest speakers. For a complete listing of this years' speakers, see the [TCU Mathematics Department Current Lecture Schedule](#). All TCU students, faculty, and other interested members of the community are invited to attend the lectures.

University Career Services

The TCU University Career Services offices will sponsor a fall Career Night. This job fair will be on Wednesday, September 25 from 4:00 p.m. to 7:00 p.m. in the Student Center Ballroom. It is co-sponsored by the Delta Sigma Pi Business Fraternity and the Harris School of Nursing, but is for all students who are seeking employment opportunities after graduation, internships or just information about the types of jobs available. About fifty employers are expected to be represented on Career Night.

Another important service provided by the Career Services office is a computer software system for posting jobs and signing up for on-campus interviews. The computer software system being used this year is new. Students who had an account in the old system will need to reestablish their profile data and upload an updated resume before signing up for on-campus interviews. Interviews are scheduled to begin on Friday, September 27, which means that the first deadline for students to sign up is September 11.

Students can get instructions about how to renew their old account or establish a new one at http://tcu.erecruiting.com. Also at that address you can view the employers scheduled so far to interview and the dates of the interviews by using the username "TCU" and the password "gofrogs."

For further information, you may contact University Career Services at 817-257-7860 or visit their office in the Student Center Annex.

2002 Calculus Bee Winners

On April 9, 2002 the TCU Mathematics Department held its annual Calculus Bee. The first place winner was Matthew Kolman. Second place and third place went to Alissa Grissom and Jared Hoag, respectively.

Solution to the April 2002 Problem of the Month

Problem: Twelve golfers plan to play in three foursomes over four days, with the composition of each foursome varying each day. Is it possible to arrange the foursomes so that every two golfers play in the same foursome on (at least) one of the days?

Solution: Such an arrangement is not possible. There are $_{12}C_2$= 12·11/2=66 different pairs of 12 golfers. One foursome includes $_4C_2$=4·3/2=6 pairings. Thus, three foursomes over four days gives rise to 3·4·6=72 pairings. This allows at most 72-66=6 duplicate pairings. However, each foursome is split among three foursomes on a subsequent day, so must duplicate at least one pairing. Considering the three foursomes from the first day, we see that at least 3·3=9 pairings from the first day must be duplicated on the three remaining days, too many to allow for the desired arrangement.

Problem of the Month

This month's problem arose in a manufacturing plant. It is, perhaps, a surprising result and is not as hard as it may first appear. Given two concentric circles, show that if one knows the length of a chord of the larger circle that is tangent to the smaller circle, then one knows the area of the annular region between the two circles.

Students and others are invited to submit solutions to Dr. George Gilbert (Math Dept. Office or P.O. 298900). Correct solutions submitted by persons who are not members of the TCU math faculty will be acknowledged in the next issue of the newsletter. Note that a correct solution is an answer and a justification of its correctness. The solution to the problem will be published in the next edition of the newsletter.

The TCU Math Newsletter will be published each month during the academic year. Dr. Hatcher: Editor; Dr. Gilbert: Problem Editor; Dr. Doran: Thought of the Month Editor. Items which you would like to have included should be sent to Dr. Hatcher (Math Dept. Office or P.O. 298900).