

# L'Augarithms



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February 29, 2010

## Mathematics Colloquium Spring Lineup

Colloquia are held Wednesdays 3:40—4:40 in Oren 113. Refreshments will be served.

Jan.	27	Pat Van Fleet, University of St. Thomas
Feb.	10	The Proof, BBC production about Andrew Wiles's solving of Fermat's Last Theorem.
Feb. →	24	Sudipto Banerjee, Div. of Biostatistics, U. of Minn. <sup>1</sup>
Mar.	8-12	Speaker(s) to be announced
Mar.	24	Vittorio Addona, Macalester College
Apr.	21	Catherine Sampson, General Mills

## <sup>1</sup>This week's speaker...

❖ **Sudipto Banerjee, Associate Professor, Division of Biostatistics, University of Minnesota**

**Biostatistics: From Cool Gadgets to "Nerdy" Math!**



Statisticians use mathematics and computers to crunch numbers and create displays for analyzing data sets. Recent advances in technology, such as Geographical Positioning Systems and Geographical Information Systems now allow users to note the coordinates where they are collecting data. Such data are known as georeferenced data and require special techniques for analysis. This presentation

will discuss the different types of georeferenced data, some approaches for their analysis and the policy questions that spatial analysis help answer.

## The Biostatistics Programs at the U. of Mn.

Discover Biostatistics through the highly ranked programs at the U. of Mn.

Discover the field of biostatistics at the University of Minnesota, home of the 2nd ranked biostatistics program in the nation among state-supported institutions (and 5th overall) according to the Chronicle of Higher Education:

1. Harvard, 2. Johns Hopkins, 3. University of Washington, 4. Columbia University, 5. University of Minnesota, 6. University of North Carolina, 7. University of Michigan, 8. University of Calif. - Los Angeles, 9. Case Western Reserve, 10. Boston University.

The Biostatistics program at the U. of Mn. will train you to play an essential role in designing studies, analyzing data, and creating methods to tackle research challenges in a myriad of settings. Degree programs in Biostatistics include an MPH, an MS, and a PhD.

❖ Visit the web site: <http://www.sph.umn.edu/programs/biostats/index.asp>

## Problem of the week...

Last week's POTW was solved by Augsburg math major Carl Benson. He got  $1/2$  for the radius of the largest circle which is tangent to the parabola at only one point.

For next time: Joe, Butch and Matilda have a free throw contest. The first one to make a free throw is the winner. Being the youngest, Joe, who only makes 40% of his baskets, gets the first shot. Butch, who makes 60% of his baskets, then shoots, followed by Matilda, who makes 70% of her baskets. If all three players miss, Joe shoots again and they continue until someone wins.

What is the probability that Joe wins?

What is the probability that Butch wins?

What is the probability that Matilda wins?

❖ Reprinted with permission from Bradley U's 'potw' page <[bradley.bradley.edu/~delgado/](http://bradley.bradley.edu/~delgado/)>

## Puzzle of the week...

Last issue's puzzle was solved by Al Jibra and Augsburg student Carl Benson. They got 3816547290 as a 10-digit number made up of the digits 0, 1, ..., 9 such that the number formed by the first  $n$  digits is divisible by  $n$  for each value of  $n$  between 1 and 10.

The next Puzzle: Without using a computer, find the smallest integer greater than 1 that is a perfect square, a perfect cube and a perfect fifth power.

❖ Submit puzzle & problem solutions to [kaminsky@augzburg.edu](mailto:kaminsky@augzburg.edu), or under Ken Kaminsky's door at SCI 137E, or in the puzzles and problems box just outside of Su's office.

## L'Augarithms

The approximately bi-weekly  
newsletter of the

Department of Mathematics  
at Augsburg College

Editor.....Kenneth Kaminsky  
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## In a Series, Nickelodeon Will Focus on Math

(Excerpt from an article by Elizabeth Jensen in the New York Times)

Nickelodeon, whose preschool shows focus on teaching social skills as much as letters and numbers, will move squarely into the academic realm, with the introduction of “Team Umizoomi,” which it said is the only preschool series centered entirely on teaching math to children.

The half-hour show, a mix of animation and live action that has been in development since late 2005, will go on the air on Jan. 25 in the network’s midday lineup.

Read the full article by Elizabeth Jensen at  
<<http://www.nytimes.com/2010/01/11/business/media/11math.html>>



## The Largest Known Prime...

The largest known prime number as of today is

$$2^{43112609} - 1,$$

which is 12,978,189 digits long. To find out more about primes, visit <http://primes.utm.edu/largest.html#biggest>, or just Google ‘prime numbers.’

## Bonus puzzle...

What in the world can the sequence below mean?

1    22    1    20    1    18

Do let us know.

## Born on this day in 1920 — Sree Pillai



Sree Pillai studied at the University of Travancore in Trivandrum. In 1937, just after Pillai began his studies there, the University of Travancore changed its name to the University of Kerala. He graduated in 1941 and obtained his Master’s Degree in 1945.

Pillai was appointed a lecturer at the University of Kerala in 1945 and worked there for six years until he went to the United States in 1951. After studying for one year at Princeton, Pillai went to the University of North Carolina where he was awarded a doctorate in statistics in 1954.

His first post was as a statistician with the United Nations, a post he held from 1954 until 1962. Part of his duties in this post involved him founding the Statistical Center of the University of the Philippines. He was a visiting Professor and Advisor to the University over a number of years and supervised graduate students there.

In 1962 Pillai was appointed Professor of Statistics and Mathematics at Purdue University. His contributions to Purdue have been described as follows:

*In the 25 years he served Purdue, he directed the research of 15 Ph.D. students. He was also an active consultant on several projects both within and outside the University. He was a close friend of his students and maintained a correspondence with most of them, some of whom are in remote parts of the world.*

Pillai’s research was in statistics, in particular in multivariate statistical analysis.

*... he obtained the probability distributions of statistics relating to several multivariate procedures. Perhaps his best known contribution is the widely used multivariate analysis of variance test which bears his name.*

Pillai was honoured by being elected a Fellow of the American Statistical Association and a Fellow of the Institute of Mathematical Statistics. He was an elected member of the International Statistics Institute.

As well as his work at Purdue in developing the graduate programmes, Pillai was a keen golfer. This has been described as follows:

*His unique and unforgettable style charmed his playing companions and confused his opponents in the Purdue Staff League. His performances in the League matches were legendary.*

Pillai died in Lafayette, Indiana on June 5, 1985.

❖ Article by: *J.J O’Connor and E.F Robertson* (reprinted with permission)