

Local and National Leader Goes International

The Rowan math department's Professor Eric Milou has already spent four terms as the president of the University Senate. The Senate is the recognized voice of all faculty members concerning issues of governance. From promotions to tenure, from curriculum to rules for department chairs, the Senate has advisory committees in every aspect of life here for a faculty member. Professor Milou can be found dispersing information to a Dean one moment and consulting with the Provost the next.

However, that's merely one aspect of the influence Professor Milou has on academic life. He participated in the

development of the Common Core Mathematics Standards which have been adopted by forty-one states. He has been the principal investigator for the quality of mathematics instruction garnering millions of dollars in federal grants. He was the winner of the Max Sobel Outstanding Educator Award in 2009. This award is given by the Association of Mathematics Teachers of New Jersey.

In November, he was chosen to be a member of a



delegation of mathematics education authorities that toured India in order to study educational practices there. The delegation toured premiere institutions like the Hindu College and the University of Delhi. It also toured a school in India where all classes were taught in English. Just to mention one significant difference between the USA and India, students must select a career path at the end of their tenth grade year. As a result of this choice, only about fifty percent of these students ever take a mathematics class in grade 11 and 12.



TRIVIA CORNER

"I was once a full time tenured faculty member in this math department. Now, I'm the mayor of a South Jersey municipality. Who am I?"

(answer next issue)

Rowan Alumnus a “Next Gen” Researcher



Brian Livings (*class of 2007*) is a mathematician with the Department of Transportation at the Federal Aviation Administration Technical Center at the Atlantic City Airport. He is involved in the development of the new air traffic control scheme known as “Next Gen.”

There are many different interlocking pieces of “Next Gen” research. Brian’s area of concentration is altimetry. In particular, he is concerned with applications of bias corrections to an

aircraft’s geometric height. His work involves Java programming, data analysis, numerical analysis and operations research. Research papers are published which document this work. Monitoring stations exist in Europe, South Africa, Australia, Thailand, Japan and China. In Brian’s own words:

“The FAA looks to the future of air travel and the rest of the world looks to the FAA.”

Math Team to Compete on Putnam Exam

Math Team members David Rowan, Jasen Scaramazza and Siobahn Young will compete December 4th on the Putnam Exam representing Rowan University against over 4,000 students representing over 500 colleges and universities in the USA. The Putnam Exam is the most difficult mathematics exam in existence. Some years, fifty percent of the competitors don’t even score a single point.

Each individual is given six problems in the morning session with three hours to work on them alone. After a break, six new problems are handed out for another three hour afternoon session. The sum of the scores of our three individual students will be the Rowan University team score.

Professor Olcay Ilicasu is the coach of this year’s team. She has reported that practice sessions have been intense, and the team is ready to compete.

Fulfilling Internship for Rowan Math Major



Senior mathematics major Emily Dietrich spent twelve weeks this past summer as an Actuarial Intern with Genworth Financial Insurance in Richmond, Virginia. She had the opportunity to use the Monte Carlo technique to price a new insurance product. Emily also was able to participate with two others in making cost projections. She left her internship with a feeling of having made significant contributions to the firm.

Emily passed the first actuarial exam in the fall of 2009. She participated in Professor Chris Lacke’s highly successful and voluntary actuarial study group. She is currently taking finance courses at Rowan in preparation for working with Professor Lacke again in order to prepare for taking the second actuarial exam (Financial Mathematics).

Information about the Society of Actuaries, internship opportunities and the actuarial exams can be found at the website: www.soa.org.

A Winner in So Many Ways

In October, the winner of this year's first monthly problem contest was Jennifer Hoxworth. Her elegant solution of a combinatoric problem

The booklet helps cancer patients visualize beating the disease. The American Cancer Society is distributing the booklet nationally to hospitals.



concerning round robin tournaments won her the monthly prize and her certificate of accomplishment.

$$\begin{aligned}
 &= \frac{1}{2} \left(\frac{N(N+1)(2N+1)}{6} - \frac{N(N+1)}{2} \right) \\
 &= \frac{1}{2} \cdot \frac{(N^2+N)(2N+1)}{6} - \frac{1}{2} \cdot \frac{N^2+N}{2} \\
 &= \frac{2N^3+N^2+2N^2+N-3N^2-3N}{12} \\
 &= \frac{2N^3-2N}{12}
 \end{aligned}$$

Jennifer began higher education at Cumberland County College at the age of 16. In 2008, she received her BA in Art with a concentration in illustration here at Rowan University. While working on her art degree, she illustrated a booklet entitled "Imagine What's Possible" pro bono under the direction of Professor Nancy Ohanian.

Jennifer was also elected as this year's president of the Math Team. The officers include:

- Haddy Diallo - Vice President
- Evan Edinger - Secretary
- Mariellis Nunez - Treasurer
- Robert DeBaun - Senator

Jennifer works in the Center for Academic Success at Cumberland County College with students who have disabilities. She maintains a 4.00 GPA at Rowan. She was inspired to strive for a career in teaching college mathematics while taking Professor Evelyn Weinstock's Calculus III course as an elective towards her art degree.

Jennifer and her brother Ryan, an art major at Rowan, are endowing two undergraduate student scholarships. The one at Cumberland County College is for a graphics design major and the one at Rowan is for a math major.

TRIVIA CORNER

Last Issue's Answer:

Siobahn Young is the math major who is also a beach volleyball star.



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Please send any suggestions for stories or any comments about this newsletter to:

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Two Degrees of Separation

Housed in the basement of the Moore School of Engineering at the University of Pennsylvania during the early 1940s was the top secret device called the Differential Analyzer. It was a mechanical machine originally devised to solve differential equations using integration techniques. However, it became the prototype for the first electronic computer, the ENIAC.

The Analyzer was mostly used to calculate trajectories. Five female mathematicians were chosen by the War Department to solve by hand the differential equations to check the work of the Analyzer. Shirley Melvin and her sister were two of these women. A film commemorating their efforts entitled "Top Secret Rosies" was produced by LeAnn Erickson under the auspices of Temple University.

After the war, Shirley and her sister founded a real estate firm dedicated to the racial integration of the first neighborhood in Philadelphia, Mount Airy.

In the summer of 2010, I had the pleasure of teaching Differential Equations to Physics major Emma Cortes. She is Shirley's granddaughter.

