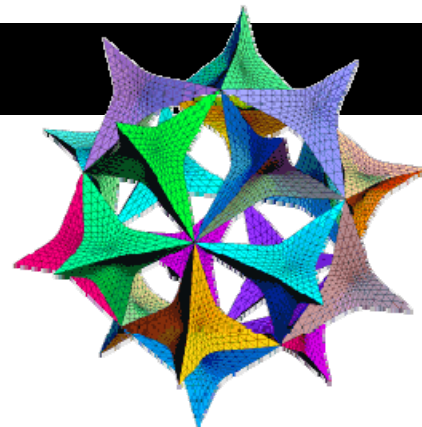


MATHEMATICS & STATISTICS



NEWSLETTER

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GEORGE GEORGANTAS WINS EISENHART AWARD

Prof. George Georgantas

Affectionately known as “G²” by his students, Professor George Georgantas is a recipient of this year’s *Eisenhart Award for Excellence in Teaching*. The Eisenhart Award is the highest honor for teaching that an RIT faculty member can receive and winners are chosen through a rigorous review by both faculty and students.

Since joining the Department of Mathematics and Statistics in 1975, Prof. Georgantas has been a dedicated and caring teacher. He commented that he has received great inspiration from Dr. John Randolph, a former member of the department. “John Randolph would reach down to his students and pull

them up to a higher level. I have tried to do the same by setting high standards and doing everything I can both inside and outside of class to help my students reach that higher level.”

For the past few years, Prof. Georgantas has been at the forefront of RIT’s distance learning courses in mathematics. He remarks that it is both exciting and challenging. “You never get to see your students,” said Prof. Georgantas “but you find ways to make the class as personable as you can.” He encourages students to scan pictures of themselves and their families to share with the entire class over the internet, and maintains daily communication with all of his students. He has been very successful in teaching his students beyond the traditional classroom with his dedication and energy. One student commented on an evaluation: “Prof. Georgantas did an excellent job supporting me as an on-line student. He continuously follows up quickly when you ask questions.”

Whether Prof. Georgantas is at the front of the room or hundreds of miles away, his dedicated efforts over the years have won the respect

and appreciation of his students. One student evaluation read: “Excellent professor! ...Always available and ready to help,” while another succinctly stated, “He’s the best instructor I’ve had at RIT.”

OUTSTANDING UNDERGRADUATE SCHOLARS

Two of our undergraduates, Joanne Mulé and Mark Breitenbach, have been designated Outstanding Undergraduate Scholars. To be eligible for this award, a student must have a GPA of 3.85 or better, must have completed 125 credits and must have been active in RIT affairs outside of the classroom.

Joanne Mulé

Joanne Mulé is a senior Applied Statistics major with a perfect 4.0 GPA. Various faculty members refer to her as “top-notch”, “self-

motivated”, and “creative”. One faculty member sums up his description of Joanne as a student who “...truly enjoys the dynamics of learning and of serving her community through her professional growth.”

Outside of class, Joanne has tutored in the Math Lab of the Learning Development Center and has assisted the Department of Mathematics and Statistics, the Undeclared Science program, and the College of Science with Open Houses and with the orientation of first-year students. As a member of Circle K, the campus service club, she has participated in numerous volunteer activities.

Joanne has received the Department of Mathematics and Statistics Randolph Student Award, was selected for membership in both Golden Key and Phi Kappa Phi Honor societies and has passed the first exam given by the Society of Actuaries. Last summer Joanne was selected for a prestigious actuarial internship with New York Life Insurance Company. Even with all of these activities, Joanne has worked part time since coming to RIT in the College of Engineering Dean’s Office and as a homework grader in the Mathematics and Statistics Department

After graduating with a BS in Applied Statistics with a concentration in Business Finance, Joanne intends to continue her education at RIT next year in the MBA program.

Mark Brietenbach is a senior Computational Mathematics major with a cumulative 3.94 GPA. Faculty members refer to him as “simply outstanding,” “serious” and “responsible.” One faculty member said that Mark is a student whose

“true thirst for knowledge is impressive.”

Mark Breitenbach

Mark’s extracurricular activities include playing four years of varsity baseball, with the last year as captain of the team. He has earned All-Conference and All-Region honors, as well as setting a school record for appearances and leading his team with a .76 ERA. Mark is also a member of the Mathematics & Statistics Club and has assisted the department and the college with Open Houses. He is a member of the Student Athletic Advisory Board and has done volunteer work at the Open Door Mission. In his spare time, Mark has held several campus jobs and is a mathematics tutor at the Learning Development Center.

Mark has been involved in several research projects in the Department of Mathematics and Statistics, such as an analysis of wavelet transforms through linear algebra and applications of abstract algebra to modern cryptography. Mark has had two co-op jobs at the Rome Research Laboratories. Last summer he was selected for the Director’s Summer Program at the National Security Agency where he worked as a cryptologic mathematician. Mark also won the Kearsse Award in writing for a paper he wrote in an economics class.

After graduation, Mark is considering employment at the National Security Agency.

RANDOLPH STUDENT SCHOLAR AWARD

Donald Butler

Donald Butler is the recipient of the 2000-01 John F. Randolph Student Scholar Award. Donald is currently a third-year Computational Mathematics major. The Randolph Award is given once a year to a second-year student who not only has maintained an excellent academic record, but who has worked substantially to pay for his or her own education at RIT. Donald was a second-year student at the time the award was made.

Dr. John F. Randolph had a long and distinguished career as a mathematician and educator that spanned 50 years. He taught here in our department for 19 years after retiring from the Mathematics Department at the University of Rochester. He was the author of many papers and textbooks and was noted for his outstanding teaching. He firmly believed that teachers who deal with students with insufficient backgrounds should accept this as a challenge to their teaching abilities rather than a liability.

This year our department is very pleased to present the Randolph Award to Donald. He has

maintained a high GPA in spite of working full time. He started his first job when he was still a freshman in high school and continued working for the NCR Corporation throughout high school as a computer programmer. He worked for several years after graduation as a computer consultant until he decided to join the Army in active service. He spent four years on active duty and was honorably discharged in 1999. He still continues to serve in a National Guard unit in Cortland. He came to RIT after graduating from Onondaga Community College in Computer Science. Donald is currently working full time for the Sutherland Group in Henrietta on a helpdesk for a National DSL provider.

On a personal note, Donald is married and the father of two children. Joshua is three years old and Emily is nine months old. His wife is a full time student at Brockport.

Congratulations to Donald for this distinguished award and recognition! We wish him well during his future academic and professional careers.

DEAN OF THE COLLEGE OF SCIENCE

Dean Robert Clark

On March 14, 2001, Dr. Robert Clark announced that he would be

stepping down as Dean of the college at the end of this academic year. Prof. Clark was appointed interim dean in May 1994, and two years later was selected as the permanent Dean.

In his letter to the faculty, he put it this way, "Nearly seven years ago we embarked on a journey together, but this, like all other journeys, must come to an end." He continued, "This has not been an easy decision, as there are many challenges and opportunities ahead of the College left unaddressed. But as I reflected on the challenges we faced seven years ago, I could not help but conclude that we, together, have laid the foundations for moving the College of Science to its proper place in the RIT community – as an intellectual and educational center of the university."

Prof. Clark will continue working at RIT in the development and implementation of the science-related elements of the emerging Institute Microsystem Research Program Initiative. We extend to Dean Clark our best wishes – both in professional work and in personal life.

Dr. McKenzie has announced that Dr. Ian Gatley will serve as Interim Dean of the College of Science beginning July 1, 2001, and lasting until a new dean is in place. Prof. Gatley has been at RIT since 1997, serving as the Director of the Chester F. Carlson Center for Imaging Science within the College of Science. Before coming to RIT, he served as an Astronomer and Chair of the Infrared Steering Committee for the National Optical Astronomy Observatories in Tucson, Arizona, and as Senior Principal Scientific Officer for the

United Kingdom Infrared Telescope in Hilo, Hawaii. He received a BS degree in Physics, with First Class Honors, from the University of London, and a Ph.D. in Physics from California Institute of Technology. He also spent two years as a Postdoctoral Fellow at Cal Tech.

A national search process for a permanent Dean of the college will get underway this spring. It is hoped a new Dean will be identified in the course of next year, with a start date no later than July 1, 2002.

2000 PUTNAM EXAM

The sixty-first competition was held on December 2, 2000. The winning teams were from Duke University (first place) and next from MIT, Harvard, Cal Tech and University of Toronto. The Putnam Fellows (the five highest-ranking individuals) were Gabriel Carroll from Berkeley, Abhinav Kumar from MIT, Ciprian Malonescu from Harvard, Pavlo Pylyavsky from MIT and Alexander Schwartz from Harvard. A total of 2818 students from 434 colleges and universities in the United States and Canada participated in the competition. There were teams from 322 institutions.

RIT's team contestants were Mingming (Roger) Mao, Charles Moulton and Donald Butler. John Chatham, Jason Furgal, and Carol Panepinto also participated in the competition. RIT's team rank was 60th out of 322 teams which placed us in the 81st percentile. The highest-ranking RIT contestant was Mingming Mao who placed in the 89th percentile.

Congratulations to all of the contestants for a fine effort!

PROFESSOR FARNSWORTH

Winter quarter a year ago, Prof. Farnsworth was awarded a sabbatical. It turned out that he decided to take a leave of absence this past winter quarter also.

Last year's sabbatical involved a commitment to RIT to do research in his areas of interest in statistics. The more recent leave was without pay - more like a time out. In part, Prof. Farnsworth took the recent leave as a practice retirement. He decided that he missed his students, classes, and colleagues. Any plans for retirement are on permanent hold.

Although research was not necessary during his leave, this past winter Prof. Farnsworth finished his article "A Cautionary Note about the Cox and Stuart Test." That test uses the signs of slopes between selected data points to assess the association between two variables. He submitted the article to the magazine *Teaching Statistics*. It was accepted and will appear in the magazine's Autumn 2001 issue.

MATHEMATICS AWARENESS MONTH

April was Mathematics Awareness Month. This year the topic was "Mathematics and the Ocean." At RIT, Dr. Karl Korfmacher, Assistant Professor in the Environmental Sciences Program spoke on "Trying to See Seagrass Without Getting Wet - Habitat Monitoring Using Satellite Imagery and Statistics".

Prof. Korfmacher graduated from the School of the Environment, Duke University. His primary research interests include using

geographic information systems (GIS) and times series analyses to estimate the impacts of land use change on water quality (erosion and sediments) and developing GIS and remote sensing methodologies for monitoring and managing coastal habitats.

Further information on Mathematics and the Ocean can be found at the Mathematical Association of America web site located at: <http://www.maa.org/news/mam01.html>. They say: "The key role of mathematics can be seen at all levels of ocean science. Analytical and numerically approximated solutions of the equations of fluid dynamics are crucial for models of physical behavior; statistics and signal processing lie at the heart of data collection and analysis; and mathematical control theory and inverse methods have revolutionized the study of thermodynamic and other ocean properties."

The MAA site also presents some curious stories. Here are a couple samples.

One night some residents of California had slept peacefully. A storm had been expected to come in off the ocean but all had been calm. Morning light showed a beach unchanged except that a wharf had disappeared. The mystery was subsequently explained. Measurements were taken of the depth of the sea floor in the vicinity of the missing wharf. Trajectories orthogonal to the curves of constant depth were plotted. They showed that a large width of the energy of the incoming waves had been funneled directly onto the wharf.

Another story is told in Gary Kinder's "Ship of Gold in the Deep Blue Sea". A consignment of 1.6 million dollars of gold went down

in the Atlantic Ocean two hundred miles off the Carolina coast in 1857 when the SS Central America floundered in a hurricane. In the 1980's Tommy Thompson organized an expedition to bring up the gold. Diaries and journals of the few survivors, coordinates given by their rescuers and newspaper accounts were studied for as much information as they could provide on the ship's location when it went down. They computed forward in time using data from before the sinking and backwards using data from the rescue ships. The "Ship of Gold" was finally found, along with many gold pieces and bars in mint condition. A ten-year legal battle ensued to determine the legal owners of the recovered fortune.

SPRING MATHEMATICAL MEETINGS

The Spring Meeting of the Seaway Section of the Mathematical Association of America (MAA) was held at Binghamton University on April 6th and 7th. Math-Stat faculty member Prof. James Marengo presented a talk, entitled "*Proper-ties of the Most Powerful Critical Region for Testing the Location Parameter of a Cauchy Distribu-tion*". Another faculty member, Prof. Darren Narayan, was invited to participate as a panelist for a discussion entitled "*How to Survive Your First Year*". The discussion was part of the Seaway NEXt / Preparing Future Faculty (PFF) program which is designed to promote the professional development of new faculty in our geographical region.

INTERNATIONAL CONFERENCE

The Thirty-Second Southeastern International Conference on Combinatorics, Graph Theory and Computing was held from February 26th to March 2nd at Louisiana State University in Baton Rouge, LA. Neik Sanders, a freshman at RIT gave a presentation "*Bipyramids of Arbitrary Genus*" exhibiting his joint work with Prof. Serge Lawrencenko, a Visiting Assistant Professor in our department. Prof. Lawrencenko gave a presentation "*A note on g-Outer Graphs*" featuring his joint research with Onyeje Bose, an RIT student. In addition, Prof. Darren Narayan, an Assistant Professor in our department, presented some of his recent research results in his talk "*Powers of Directed Hamiltonian Paths as Minimum Feedback Arc Sets*".

HIGH SCHOOL MATHEMATICS: WHAT MATH DID OUR STUDENTS LEARN?

Ruth Tancrede

The Teaching Effectiveness Committee presented a 'learning session' for faculty on March 28. Our guest speaker was Ms. Ruth Tancrede, former mathematics instructional leader at Greece Olympia High School.

Ms. Tancrede elaborated on: the current and future New York State mathematics requirements for college-bound students, algebra and trig skills, problems that the high school mathematics teacher faces, use of graphing calculators (pros and cons), trends that she sees, and suggestions that she has for us in dealing with students straight out of high school.

And how does she picture the present situation among high school teachers of mathematics? 'Warfare'. The Math 1, 2 and 3 curriculum that was introduced twenty years ago is going to be phased out starting this coming fall, and new alternatives are going to be offered; one is a traditional approach to algebra, trig and geometry, and the other is a 'reformed' curriculum based on the discovery approach.

The warfare issue is this: Each school district must make up its mind regarding which alternative it will embrace. Whether or not the teachers in the district are prepared to teach by the alternative chosen for them, they must teach by that choice. This only compounds the problems that already exist: many teachers are not happy with the schemes they are asked to follow, and students who transfer from one school system to another are required to 'switch gears' instantaneously.

And what should we expect over the next several years? Greater diversity of student preparation for college mathematics is the sum and substance of what we should expect.

FACULTY NEWS

Prof. David Farnsworth's article "Teaching Variation Using the

Web" appeared in the Winter 2001 issue of the Journal Mathematics and Computer Education.

Prof. Darren Narayan wrote the article "The Academic Job Search in Mathematics - An Applicant's Perspective" that appeared in November 2000 FOCUS, which is the newsletter of the Mathematical Association of America.

DAVID HAGEN'S COOP

David Hagen

Through the fall and winter quarters of RIT's 2000-2001 year, I did a co-op with the Xerox Corporation in Webster, NY. I worked in the Advanced Imaging Systems group, a research group within Xerox. Primarily, I worked on programming a half toning toolkit to be used throughout Xerox groups anywhere, to help design halftone dots in the development printer models.

The co-op experience was invaluable. It helped solidify my programming skills as well as give me first-hand insight on how to apply the knowledge and skills I had learned to real world applications. My first task there is testament to this; I came up with a variety of solutions, which included ideas and concepts I had learned in graph theory, number theory, computer graphics and by the end of the task I was quite convinced that

it could be solved with an abstract algebra approach as well. Although it was primarily an imaging science environment, the problems I dealt with were still involved in math and computer science, leaving me no qualms with how much I could and did contribute to the project.

It was a great experience, and I would recommend co-oping with Xerox, or anywhere else for that matter, to anyone interested.

POETRY AND MATHEMATICS

A new course was offered this spring quarter entitled "Analogy, Mathematics and Poetry", jointly offered by the College of Liberal Arts and the College of Science.



Patricia Miller, Irene Shei

A highlight of the course was a poster session held on April 19 in a new wing of the COS. A timeline on the wall charted worldwide developments in mathematics and poetry throughout history. Several of the students presented their posters along with a brief discussion of their subject matter.

How do world-wide developments in poetry and mathematics parallel one another throughout history?

What mathematicians and poets lived during a single time period? How did they influence one another?

Who were the mathematician-poets?

These were some of the questions posed and answered by the students, under the able leadership of Profs. Marcia Birken of the College of Science and Anne Coon of the College of Liberal Arts.

It is impossible to be a mathe-matician without being a poet in soul.

- Sofia Kovalevskaya

ALUMNI NEWS

Nicholas J. DeMatteo ('93 SMAM) is employed as a consultant by Long & Associates, a Rochester-based technology and staffing firm.

Katerine E. Marron ('00 SMAM) is a mathematics teacher at East Bay High School in Tampa, Florida. Kate says that she is enjoying sunny Florida and loves teaching high school students. The teaching is both challenging and rewarding.

WINTER 2000 DEAN'S LIST

Jennifer Baldwin
 Brett Billings*
 Mark Breitenbach*
 Svetlana Bukharina*
 Ronia Chaar
 Kari Clark
 Christopher Costanzo
 Brianna Decker*
 Joel Dreibelbis
 Shawn Dwyer*
 Calvin Farmer
 Jennifer Goodenow
 Thomas Henthorn
 Matthew Hribar

Melissa Matthews
 Sarah McCormick*
 Jeffrey Medlar
 Patricia Miller
 Joanne Mule
 Amy Novotny
 Thomas Prevendoski
 John Priestly
 Jennifer Richter*
 Marissa Robertson*
 Victoria Shults*
 Jin Song
 Robert St Pierre*
 Benjamin Stabley
 Tiffany Swasta
 James Wakefield
 Erik Westerlund
 Pamela Winn

Congratulations!
 (*) Perfect 4.0 GPA

Mathematics and Statistics Newsletter

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 Prof. Rebecca E. Hill
 Prof. Richard Orr
 David Hagen

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