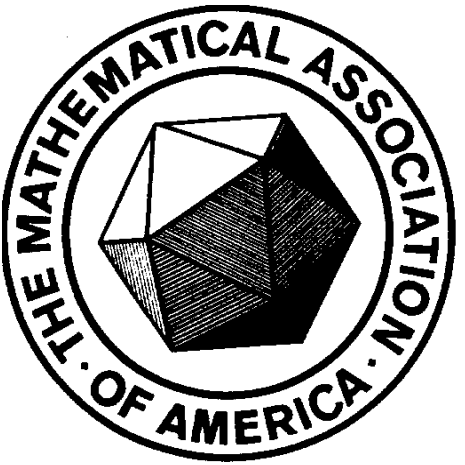
The Mathematical Association of America

New Jersey Section Meeting

in conjunction with the 6th annual

Garden State Undergraduate Mathematics Conference



Monmouth University
West Long Branch, NJ

Sunday, March 29, 2009

Abstracts and Biographies of Speakers

Using Mathematics to Create Symmetry Patterns

Joseph Gallian, University of Minnesota Duluth (joint MAA-GSUMC speaker)

We use video animations to illustrate how mathematics can be used to create computer generated symmetry patterns. Polynomials, exponential functions, logarithms and modular arithmetic are used to transform basic images into symmetry patterns. These methods were used to create the image for the 2003 Mathematics Awareness Month poster.

Joseph Gallian took office as the President of the Mathematical Association of America in January of 2007, and in January 2009 became Past President. He obtained a B.A. from Slippery Rock University in 1966, an M.A. from the University of Kansas in 1968 and a Ph.D. from the University of Notre Dame in 1971. After serving as a visiting Assistant Professor at Notre Dame for one year, he went to the University of Minnesota Duluth where he is a Morse Alumni Distinguished University Professor of Teaching.

Among his honors are the MAA's Haimo Award for distinguished teaching, the MAA Allendoerfer and Evans awards for exposition, an MAA Polya Lecturer, a term as MAA Second Vice President, co-director of the MAA's Project NExT, associate editor of the American Mathematical Monthly and the Mathematics Magazine, advisory board member for Math Horizons, and the Carnegie Foundation for the Advancement of Teaching Minnesota Professor of the Year in 2003.

Since 1977 over 100 research papers written under his supervision by undergraduates in his summer research program have been published in mainstream journals. He has given more than 250 invited lectures at conferences and colleges and universities and is the author or editor of five books and more than 100 articles.

Besides the usual math courses, he has taught a Humanities course called the "The Lives and Music of the Beatles" for more than 25 years and a liberal arts course on math and sports. In 2000 a Duluth newspaper cited him as one of the "100 Great Duluthians of the 20th Century."

An Equation Runs Through It: A mathematical model for white water rafting in the Grand Canyon

Catherine Roberts, College of the Holy Cross

This talk will discuss a multi-disciplinary research project done for the Grand Canyon National Park on white-water river running. Catherine will discuss the challenges faced by the National Park Service as it seeks to manage, both responsively and responsibly, this important natural resource. How a mathematician came to play a part in these efforts will round out the presentation. She will show some spectacular photographs and video.

Catherine Roberts grew up on Cape Cod in Massachusetts and decided to become a teacher when she was in 5th grade. She majored in math and art history at Bowdoin College in Maine and then earned a Ph.D. in applied math at Northwestern University near Chicago. She's had three different jobs as a math professor while she and her academic husband struggled to solve their two-body problem, and is now happily tenured at Holy Cross in Worcester, Massachusetts. (Her husband is a tenured chemist at WPI). Active in the Association for Women in Mathematics, she's also directed her college's Environmental Studies program and she is the Editor in Chief of a journal called *Natural Resource Modeling*. She and her husband have two boys.

Circular Irrationalities: From Galois to Kummer and back again

John Swallow, Davidson College

The truth value of the statement "Harry and Isabel are siblings, and Joe and Karl are siblings" is very probably not invariant under every permutation of the names. Surprisingly, the study of roots such as $\sqrt{2}$ and $\sqrt[5]{3}$ proceeds similarly: in place of sentences, consider equations relating the roots and ask which of them hold true under certain permutations of the roots. We introduce this study of nth roots and then tell the story of how some basic questions, solved with real contributions by undergraduates, pointed the way to some significant new results in field theory. This work is joint with Davidson undergraduates Frank Chemotti '05 and Andy Schultz '02, as well as D. Benson, N. Lemire, and J. Mináč.

John Swallow was tripped up by Galois theory as a graduate student. He's loved doing it, teaching it, and writing about it ever since, and he is particularly grateful to have been awarded an NSF-RUI grant to support all three. The author of Exploratory Galois Theory (Cambridge, 2004), he has enjoyed writing research articles as well as pieces for the Bulletin, the Monthly, the Notices, and the American Scholar. John teaches at Davidson College as Kimbrough Professor of Mathematics and Humanities.

Abstracts of MAA-NJ Contributed Paper Sessions

Session 1: Mathematics and Climate
Room 115, Edison Science Hall
Organizer and Presider: Srabasti Dutta, College of Saint Elizabeth

1:50-2:05

Michael Levandowsky, Pace University and The Salk Institute,
mlevandowsky@gmail.com

The Biogeophysical Background for Models of Climate and Global Warming

In this talk we examine the physical, chemical and biological factors that should be considered in mathematical models of climate change. The basic determinants of solar energy absorption and the earth's albedo include: first, the interaction of the solar spectrum with the atmosphere, including the effects of greenhouse gas absorption of infrared radiation, and also complex effects of short wavelengths in the upper atmosphere; second, absorption and reflectance of components of the earth's surface. We then discuss forcing processes and feedback loops affecting these processes, including biological effects and those arising from human activities. Finally we consider the links to economic forces, and the prospects for remediation.

2:10-2:25

Ian Frommer, US Coast Guard Academy,
ian.d.frommer@uscga.edu

Green Operations Research at the US Coast Guard Academy and Beyond

Operations Research (OR), the use of quantitative methods as an aid in decision-making, has long been applied to energy and environmental

areas. It is playing an increasingly important role in the challenges of sustainability such as green-house gas reduction, renewable energy, and waste flow. OR is also particularly well suited for undergraduate research projects of a practical and local nature. In this talk we give an overview of work undertaken in "Green OR" and then discuss an undergraduate project we advised on waste flow optimization at the US Coast Guard Academy that utilized multi-objective linear programming. We also discuss ongoing and future projects on hazardous material reduction and co-generation. We close with suggestions for similar projects that could be undertaken by others at their own institutions.

2:30-2:45

Melike Gursoy, Rutgers University,
gursoy@rci.rutgers.edu

Evacuation Planning for Climatic Disaster Management

Recent unexpected climatic events are testing our emergency response capabilities, such as the heat wave in Chicago in 1995, hurricane Floyd in 1999, Katrina in 2005, and Ike in 2008. In case of such an extreme climatic event, people in their homes can be moved to shelters where climate controlled environments can be provided and healthcare needs can be met. Without a detailed plan that takes population demographics and uncertainty into consideration, there may not be sufficient accommodation in health centers (such as hospitals, clinics, and shelters and the others) or sufficient provisions such as food, water, and drugs for the population in the target areas. In addition, as we have witnessed during Katrina, the roadways may become congested because of the sudden surge in demand. This in turn can result in time delays, thus, hindering evacuation objectives. We will present a preliminary plan for evacuation considering various components of the problem. The objective of this plan is to minimize the adverse health effects of a climatic disaster. We will introduce a stochastic mathematical program that solves the emergency-shelter location and allocation problem in which people are assigned to optimally located and equipped centers according to their particular needs.

2:50-3:05

Daniel M. Rosenblum, University of Medicine and Dentistry of NJ, rosenbdm@umdnj.edu

Advanced Statistical Models to Assess the Effects of Very Low Levels of Ambient Sulfur Dioxide on Students' Asthma Symptoms and Respiratory Function

Western Warren County, New Jersey is a rural area that has been marked by anecdotal reports of high asthma rates as well as community concerns about sulfur dioxide (SO_2) from nearby coal-fired power plants. To assess the effects of air pollution, a prospective cohort study of public school students with physician-diagnosed asthma was conducted in three towns in the area from February to June 2003. For our prospective study, our analysis included mixed linear regression models, in which the individual students were a random effect and the measures of SO_2 (as well as other potential confounding variables) were fixed effects. Our results indicated that PEFR was affected by SO_2 levels well below those specified in the NAAQS. It was therefore of interest to ascertain whether students' asthma symptoms, which would affect their quality of life, were also affected by such low levels of SO_2. Subsequently, generalized estimating equations, a semiparametric statistical technique that can explicitly account for repeated measurements on each student, were used to assess the effects of such low levels of SO_2 on these symptoms, and the results of the simpler models were confirmed. Our discovery, that even quite low levels of SO_2 affect some children with asthma, is thus a robust finding within our dataset.

The following paper will also be distributed at the Climate Session:

Martin Walter, University of Colorado at Boulder, martin.walter@colorado.edu

Weatherquakes, Earthquakes, Mathematics and Climate

Diverse phenomena such as the distribution of earthquakes, price variations of cotton futures, frequencies of city sizes and so on all follow simple power laws. Possibly some of the complexities of global warming/climate change yield to a similar mathematical analysis. In what appears to be deeper than mere analogy we define weather events to be weatherquakes, just as seismic events are referred to as earthquakes. We postulate the "Weatherquake Hypothesis" from which we conclude that the proportion of extreme weather events

among all weather events can be expected to increase as concentrations of greenhouse gases, such as carbon dioxide, increase in the atmosphere.

Session 2: Statistics: Practice and Pedagogy
Room 114, Edison Science Hall
Organizer and Presider: Dexter C. Whittinghill, Rowan University

1:50-2:05

Christopher Tong, Biometrics Research Department**,** Merck Research Laboratories,
christopher_tong@merck.com

Unconditional Simple Linear Regression

Ordinary least squares (OLS) simple linear regression predicts one variable (the dependent) conditioned on the other (the independent). As a result, there are two regression lines, depending on which variable is chosen to be conditioned on. When both variables are random, and the goal is estimation of the slope of the line rather than prediction, an "unconditional" analysis is preferred. Such an analysis treats both variables symmetrically. This regression line can be found by diagonalizing either the sample covariance or sample correlation matrices. The latter results in a very simple solution known as the geometric mean regression line or the SD line. This line also satisfies two other optimization criteria: orthogonal least squares (on standardized data) and orthogonal least products.

2:10-2:25

Wai Kong Johnny Pang, Monmouth University,
wpang@monmouth.edu

Applying Image Analysis on Automatic Chasing and Targeting Suspects from Different Security Cameras

In this presentation, I will focus on using image analysis on the automatic chasing and targeting of suspects from different security cameras. Chasing the same suspect in different security cameras with human eyes is a very common task in the security division. For chasing important suspects, however, well-trained and experienced people are required. Even if the persons are well trained, much communication and concentration are needed when switching

between many security cameras. I develop an analysis of shapes of configuration on pinpointing the same suspect in different security cameras in any given angle and position. This idea will ease the work load of the teams and most importantly it will decrease the chance of losing the suspect in busy or crowded areas. This application can also apply to pinpointing a few suspects in the same area. With different angles and projections, verifying and targeting the same suspect is not easy. Image analysis and projection analysis will be used to apply on the contour curve of the object in each frame from different cameras to make sure the object in different angles to be in the same projection plane. With the correct projection and correct targeting, neighborhood hypothesis testing will be used to determine if the object in the different frames from different cameras are not the same.

2:30-2:45

Dexter C. Whittinghill, Rowan University
whittinghill@rowan.edu

One-and-a-Half Semesters Using 'Clickers' for Rapid Feedback: The Good, the Bad, and the Ugly

'Clickers', or audience response devices like the TurningPoint Response Card or the iClicker, are devices for obtaining rapid-feedback from your students in the course of a lecture, in order to gauge the proportion of students who have learned a concept. After posing a question to the students, depending on the proportion of correct answers the instructor has three choices. If over 70-80% get the correct answer, the instructor can acknowledge that and move on. If only a plurality of answers are correct, he can have the students discuss the problem with each other and possibly re-poll. If few answers are correct, he can further explain the topic. When used by a knowledgeable and practiced instructor clickers are an impressive tool (the Good). When used by a rookie there can be some unfortunate effects on the lecture (the Bad) or even some embarrassing and disastrous moments (the Ugly). This shameless reprise of my JMM presentation will include what motivated me to try clickers, the context in which the clickers were used, and examples of the kinds of questions used in the class. The forty people who sit in the front *will get to try the clickers*

Session 3: General Session I
Room 113, Edison Science Hall
Organizer: Theresa C. Michnowicz, New Jersey City University
Presider: Olcay Ilicasu, Rowan University

1:50-2:05

Suneal Chaudhary, Monmouth University,
schaudha@monmouth.edu

Stock Price Formation using Nonlinear Vector Autoregression
We model stock price formation of a vector of individual communicating traders, using a vector autoregressive (VAR) process. We measure return dynamics based on communication level. Through simulation we find herding, feedback and price swings increase with communication.

2:10-2:25

Zhixiong Chen, New Jersey City University,
zchen@njcu.edu

The Effect of an External Driving Force for Multi-species Diffusion Systems
The mesoscopic models of particle diffusion in several interacting particle systems were built to model the surface processes. The external force was usually ignored or set to a constant when the models were built. However, in the real time systems, the external force plays an important role. Here we will present the case while the external force is no longer zero or a constant and its effect on the models.

2:30-2:45

Biyue Liu, Monmouth University,
bliu@monmouth.edu

A finite element method for systems of nonlinear advection-diffusion-reaction equations
We will present a finite element method for solving systems of nonlinear advection-diffusion-reaction equations. An analysis of the

(continued on page 11)

Mathematical Association of America
New Jersey Section, Spring 2009 Meeting Program

Except for the Contributed Paper Sessions and lunch, all events take place in, or in the lobby just outside, Wilson Auditorium, Wilson Hall

8:30 – 9:30	**Registration and Coffee**
8:30 – 1:30	**Book Exhibits**
9:30 – 9:45	**Welcome by Paul G. Gaffney II,** President of Monmouth University
9:45 – 10:40	***An Equation Runs Through It: A mathematical model for white water rafting in the Grand Canyon*,** Catherine Roberts, College of the Holy Cross Presider: Srabasti Dutta, College of Saint Elizabeth
10:40– 11:10	**Intermission**, Coffee and Book Exibits
11:10 – 11:25	**Chair's Report and Governor's Report**
11:25 – 12:20	***Circular Irrationalities: From Galois to Kummer and back again,*** John Swallow, Davidson College Presider: Robert Mayans, Fairleigh Dickinson University
12:20 – 1:40	**Lunch**, Club 108/109, McGill Commons
1:50 – 3:05	**Contributed Paper Sessions** • **Mathematics and Climate** Room 115, Edison Science Hall • **Statistics: Practice and Pedagogy** Room 114, Edison Science Hall • **General Session I** Room 113, Edison Science Hall • **General Session II** Room 116, Edison Science Hall
3:05 – 3:30	**Intermission:** Deadline for Silent Auction/Door Prizes
3:30 – 4:25	***Using Mathematics to Create Symmetry Patterns*,** Joseph Gallian, University of Minnesota Duluth Presider: Beimnet Teclezghi, New Jersey City University
4:25 – 4:45	**Prizes and Awards,** GSUMC Awards, door prizes, and silent auction winners (must be present to win)
5:00	Dinner honoring the Invited Speakers and Award Recipients

Garden State Undergraduate Math Conference
Spring 2009 Program

8:30 – 9:15	**Registration and Breakfast** Bey Hall Lobby
9:30 – 12:00	**New Jersey Undergraduate Math Competition** Bey Hall: Young Auditorium
12:00 – 1:00	**Complimentary Student Lunch** Bey Hall Lobby
1:00 – 2:00	**Student Poster Session** Rooms 117 and 118, Edison Science Hall
2:15 – 3:15	**Student Talks** Rooms 120, 121, 122, 123, Edison Science Hall
3:30 – 4:25	***Using Mathematics to Create Symmetry Patterns*,** Joseph Gallian, University of Minnesota Duluth Presider: Beimnet Teclezghi, New Jersey City University Wilson Auditorium, Wilson Hall
4:25 – 4:45	**Contest Results, Awards, and Prizes** Wilson Auditorium, Wilson Hall

(continued from page 9)

existence and uniqueness of the numerical solution is carried, and a prior error estimates for the numerical solutions are obtained. Numerical computations are performed to test the order of accuracy in the error estimates.

2:50-3:05

Felix Apfaltrer, BMCC/CUNY,
fapfaltrer@bmcc.cuny.edu

On teaching financial mathematics in the first two years of college
College courses in financial mathematics usually require at least some knowledge of multivariable calculus and probability as a prerequisite. Developing a course in financial mathematics for a two-year college audience is hence a challenging, yet rewarding endeavor.

Session 4: General Session II
Room 116, Edison Science Hall
Organizer: Theresa Michnowicz, New Jersey City University
Presider: Joel Pitt, Georgian Court University

1:50-2:05

Christopher Ryan Krizan, Kutztown University of Pennsylvania,
Padraig McLoughlin, Kutztown University of Pennsylvania,
mcloughl@kutztown.edu

On Properties and Aspects of Two Quasi-Cantoresque Sets

We introduce the quasi-Cantoresque sets that Krizan created, the Krizan Set, $\mathcal{K}$, and the Bubba Set, $\mathcal{B}$. We explore aspects of and we prove some nice results on each of the aforementioned quasi-Cantoresque sets; that they are compact, uncountable, perfect, and nowhere dense, totally disconnected subsets of $\mathbb{R}$ but do not necessarily have the same Hausdorff dimension as $\mathcal{C}$; moreover, they are non-self similar but symmetric ($\mathcal{K}$ and $\mathcal{B}$) so we opine as to a generalised Hausdorff dimension of $\mathcal{K}$ and $\mathcal{B}$ and we offer a limiting argument for said.

2:10-2:25

Jay L. Schiffman, Rowan University,
schiffman@rowan.edu

Iterating the Sum of the Aliquot Divisors of Positive Integers

In 1888, Eugene Catalan explored the following open problem known as *Catalan's Conjecture:* Let $\sigma_0(n) = \sigma(n) - n$, where $\sigma(n)$ denotes the sum of the divisors of n while $\sigma_0(n)$ is the sum of all the aliquot (proper) divisors of n. Then the sequence of numbers $\sigma_0^{\,0}(n) = n,\ \sigma_0^{\,1}(n) = \sigma_0(n),\ \sigma_0^{\,2}(n) = \sigma_0(\sigma_0(n)), \ldots$ is known as an *aliquot sequence*. If the sequence for a given n is bounded, then it either terminates at $\sigma_0(1) = 0$ or becomes periodic. There are several possible cases to consider including the sequence reaching a constant, an alternating pair (called an amicable pair) or a cycle of minimum length (called an amicable or social chain). On the other hand, it remains an open question as to whether all such aliquot sequences terminate and become periodic. Our goal is to discuss the problem in some detail and share some recent findings.

2:30-3:05

Catherine Roberts, College of the Holy Cross,
croberts@mathcs.holycross.edu

Intel Math Comes to New Jersey

Intel wants to grow our nation's workforce and has chosen to support a professional development program based on the Vermont Math Initiative. The aim is to teach mathematics to K-8 public school teachers. The philosophy is that student learning will improve when the conceptual understanding of mathematical content is strengthened for our children's teachers. One point of distinction with this 80-hour course is that the instructors are college mathematics professors who are paired with a pedagogy expert. The course has been successfully piloted in CA, MA, and NJ during the previous two years. As someone who has taught two cohorts of the course in MA, as well as trained two cohorts of college professors to become Intel Math instructors, I'd enjoy sharing some of the key ideas of Intel's Math Initiative. Come join me in this national effort to improve mathematics education by training K-8 teachers in math content.

Announcements

The 2009 Distinguished Service Award

The recipient of the 2009 MAA-NJ Sr. Stephanie Award for Distinguished Service is **Mark S. Korlie**, Montclair State University.

Professor Korlie has been active in the New Jersey Section since 1999 when he began to manage the MAA book sales at section meetings. He then served as Section Secretary (2000-2004) while he continued to manage the book sales until 2004. He then served as Section Chair (2005-2007).

Mark has served on many committees in the section: the By-Laws Revision Committee, 50th Anniversary Meeting Committee (Chairperson), Awards Committee, and Nomination Committee. He continues to serve on the Awards Committee, Nomination Committee, and the Garden State Undergraduate Mathematics Conference (GSUMC) Advisory Board.

Dr. Korlie was among the first cohorts of Project NJ-NExT fellows (1999-2000). He has been a National Project NExT consultant since 2001 and has served as the Montclair State University Mathematics Department MAA Liaison.

Mark has been selected to be a candidate in the current MAA-NJ governor election. We are grateful to him for his many years of dedicated service to The Mathematics Association of America New Jersey Section.

Distinguished Teaching Award

The recipient of the 2009 MAA-NJ Award for Distinguished College or University Teaching is Thomas Osler, Rowan University . Please see the separate flyer for both the citation and Dr. Osler's response.

Lunch Discussion Tables - Spring 2009 Meeting

Organized by Theresa C. Michnowicz, New Jersey City University

1. *What should we be doing in our classes to prepare students with 21st Century skills?*, led by Catherine Roberts, College of the Holy Cross.
2. *Teaching calculus to students who've had some calculus in high school: What to do?*, John Swallow, Davidson College.
3. *Mathematics and Climate*, led by Srabasti Dutta, College of St. Elizabeth, and Patricia Clark Kenschaft, Bloomfield College.
4. *What can we do to help undergraduates obtain interships, summer jobs, or acceptance in REUs related to statistics?*, led by Dexter C. Whittinghill, Rowan University.

Those who pre-registered have priority at these discussion tables.

Book Sales at the Meeting

The discounted meeting price of MAA books also applies to books *not* currently on display. Further, when you order such books at the meeting no shipping costs will be charged.

Call for Nominations for the MAA-NJ Award for Distinguished College or University Teaching

The MAA-NJ Section Distinguished Teaching Award Selection Committee is seeking nominations for the 2010 award. Please consider nominating an inspiring, respected, or influential deserving colleague for this prestigious award. Information about the nomination process and eligibility requirements are posted online at http://www.maa.org/newjersey. For additional information you may contact Aihua Li (Secretary, MAA-NJ) at lia@mail.montclair.edu . Award nominations are due November 13, 2009.

Future MAA-NJ Meeting

- The Fall 2009 MAA-NJ Section meeting will be held at the College of Saint Elizabeth, Saturday, November 7. Invited speakers include David Cox, Amherst College; Rebecca Goldin, George Mason University; and Martha Siegel, Towson University.
- The Spring 2010 MAA-NJ Section/GSUMC meeting will be held at Middlesex County College, Saturday, April 10.

Call for Contributed Paper Session Organizers and Lunch Table Discussion Leaders

MAA members interested in organizing a contributed paper session at the Spring 2010 meeting or leading a lunch table discussion topic at the Fall 2009 meeting are asked to please submit the proposed topics to Theresa Michnowicz, New Jersey City University, tmichnowicz@njcu.edu, by Tuesday, September 8, 2009.

MathFest 2009

The Mathematical Association of America will hold its annual MathFest in Portland, OR, August 6-8, 2009. More information, including online registration and a list of contributed paper sessions, can be found online at http://www.maa.org .

Other Future National MAA Meetings

- 2010 Joint Math Meeting, San Francisco, CA, January 13-16, 2010
- 2010 MathFest, Pittsburgh, PA, August 5-7, 2010
- 2011 Joint Mathematics Meeting, New Orleans, LA, January 5-8, 2011

2009 MAA PREP Workshops

The program costs as well as the costs of food and lodging during the workshop are covered by PREP. However, there is a registration fee for each workshop. Visit MAA Online at http://www.maa.org/prep/ for information.

Dinner Honoring the Invited Speakers and Award Recipients

The Section will honor the invited speakers and award recipients at dinner following the meeting. Everyone is cordially invited.

JOIN THE MAA (http://www.maa.org/membership/join_main.html).

Governor's Report

The January 2009 Joint Mathematics Meeting in Washington, DC, was a great success by all accounts with a record number, over 6,000, people registering. I saw the brick on the Halmos walk, "MAA, New Jersey Section," during the tour of MAA headquarters.

Student participation has grown dramatically in recent years. Indeed, half the registrants at Section meetings this past year were students. Last year there were more than 275 student presenters at national meetings and over 190 student posters; space is becoming a problem. This is having adverse effects on some sections because faculty no longer perceive Section meetings as serving their interests; they see them as student gatherings. I reflected at the fine approach of New Jersey with separate gatherings until the end of the program.

Not surprisingly, there was much discussion of finances. "I never thought I would be happy about losing only a million dollars," the treasurer, John Kenelly, commented to me afterward. In public he observed that the MAA investments lost only ten percent this year, much better than most institutions and individuals. He also emphasized the value of retaining an active investment committee. Our professional investment advisor told the MAA that the bad financial times were over late this past spring and recommended transferring our cash to equities. The investment committee refused the professional advice, thereby saving the MAA millions of dollars.

The MAA has habitually budgeted conservatively "with income less than probable and expenses more than likely," resulting in deficit budgets. However, until 2008 the actual expenditures would end up less than the income, so each annual report was in the black. The year 2008 was different; although the deficit was less than budgeted, it was a deficit. The deficit was about $270,000 in a budget of eight million, not a huge percentage, but worth concern. The staff has extensively discussed what should be done, short and long term. It is challenging because "we don't have fat."

There will be fewer issues of FOCUS, but some issues will be longer. Probably there will be "more online and less print," saving paper, printing, and postage costs. This was discussed at length in break-out groups with a variety of opinions expressed. "Online only" memberships might be offered at a discount that would save both the MAA and the member money. Perhaps students and international members could have only "online only" memberships available.

Should we reconsider student memberships? At $30, each membership loses the MAA considerable money. Furthermore, they rarely lead to continuing membership. Students move when they graduate, so the MAA can't

trace them, and they don't usually renew. Michael Pearson, Associate Director of Programs and Services, confessed he had stopped the custom of giving free memberships to students who give papers at Section meetings as of this past fall. Sections, of course, may continue this practice at their own expense. Executive Director Tina Straley said she thought services to students were more important than memberships - for example, funding for travel to conferences, and sessions where students are encouraged to contribute either talks or posters.

New Strategic Planning projects are being suspended while we implement the recommendations of those already accomplished. One in process is the study of calculus programs. Some studies indicates that half of those who take AP calculus in high school don't take the exam, half of those who take the exam don't pass, and half of those who do pass never take any more math. This talented eighth merits concern. Why have they avoided all math after excelling in it? We can't ask them in college math classes, but some surveys are being done in English classes to get the answers.

Michael Pearson, Associate Director of Programs and Services, said that surveys repeatedly yield a response from students, "Mathematics is important, but not for me." A new SIGMAA on Circles is being organized to promote math circles among students and professional mathematicians.

The Archives of Mathematics recently got a 4-year grant to preserve papers of prominent mathematicians. It will accept information about the history of MAA Sections.

Sections were urged to make sure all their officers are members of the MAA. Only elected officers should vote at Section officers' meetings.

Tina emphasized the importance of MAA members highlighting the MAA whenever you do things under MAA auspices. For example, use MAA stationery. "Our future depends on our MAA name being on everything we do."

The meeting ended with recognition of those of us for whom this was the last meeting as a governor. It was a poignant moment for me. I commented to the person next to me that I have enjoyed being a governor far more than I expected. He responded, "You learn a lot." I heard myself say (truthfully), "The most important thing I have learned is that a large number of intelligent people who think they know what is right can make joint decisions effectively while treating each other with civility. It gives me hope for the future of the human species."

MAA-NJ Section Officers

Chair	Hieu D. Nguyen, Rowan University
Chair Elect	Bonnie Gold, Monmouth University
Vice Chair for	
Speakers	Thomas Hagedorn, The College of New Jersey
Innovations	Theresa C. Michnowicz, New Jersey City Univ.
Two-Year Colleges	Carol Avelsgaard, Middlesex County College
Student Activities	Lawrence D'Antonio, Ramapo College
Secretary	Aihua Li, Montclair State University
Treasurer	Karen Clark, The College of New Jersey
Governor	Patricia Clark Kenschaft, Bloomfield College
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Liaison Coordinator	Zhixiong Chen, New Jersey City University
Workshop Organizer	David Marshall, Monmouth University
Contributed Paper Organizer	Theresa C. Michnowicz, New Jersey City Univ.
Book Sale Coordinator	Beimnet Teclezghi, New Jersey City University
Door Prize Coordinator	Olcay Ilicasu, Rowan University
GSUMC Co-Directors	Thomas Hagedorn, The College of New Jersey Christopher Simons, Rowan University
Project NJ-NExT Co-Directors	Kaaren Finberg, Ocean County College John Saccoman, Seton Hall University

MAA-NJ Committees

Organizing Committee Carol Avelsgaard, Middlesex County College; Zhixiong Chen, New Jersey City University; Karen Clark, The College of New Jersey; Amy Cohen, Rutgers University; Larry D'Antonio, Ramapo College; Srabasti Dutta, College of St. Elizabeth; Bonnie Gold, Monmouth University; Thomas Hagedorn, The College of New Jersey; Olcay Ilicasu, Rowan University; Patricia Clark Kenschaft, Bloomfield College; Mark S. Korlie, Montclair State University; Aihua Li, Montclair State University; Reginald Luke, Middlesex County College; David Marshall, Monmouth University; Theresa C. Michnowicz, New Jersey City University; Hieu D. Nguyen, Rowan University; Beimnet Teclezghi, New Jersey City University

Hosting Committee Richard Bastian, B. Lynn Bodner, Suneal Chaudhary, Micah Chrisman, Joseph Coyle, Bonnie Gold (Chair), Betty Liu, David Marshall, Susan Marshall, Wai Kong Johnny Pang, Bruce Ralli, Boyd Swartz, Judy Toubin, all from Monmouth University

Awards Committee Mark Korlie, Montclair State University; Reggie Luke, Middlesex County College; Theresa C. Michnowicz (Chair), New Jersey City University; Naomi Shapiro, Georgian Court University

Nominating Committee Carol Avelsgaard, Middlesex County College; Mark Korlie, Montclair State University; Theresa Michnowicz (Chair), New Jersey City University; Hieu D. Nguyen, Rowan University

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