Stright

Lines

FALL 2008

IUP Mathematics Department Alumni Newsletter

Notes from the Chair

As you receive this edition of *Stright Lines*, the winter has finally arrived to Indiana. The fall is gone and we had the first bit of snow this weekend. All the leaves have fallen, and some landed in our department. The alumni business card tree is up! We have received some business cards from some of you alumni, but we have not received cards from many others. If you have a business card, please share it with us. If your position does not require that you have business cards, let us know when you graduated, your degree and what your current position is, and we will make a card for you for the tree. As you will also read elsewhere on this issue, we have just released an updated website. This is part of IUP's overall changes for all websites and moving to a content management system for all websites. Let us know what you think of the new website, and/or what you may want to have added to it. There are other technology changes coming to the department, and we hope to hire two additional faculty members during this academic year.

During the next spring semester, you will receive a Note from the Interim Chair Dr. Stoudt in the spring newsletter. I will be on sabbatical during the spring working on a project in "Ethnomathematics" (the study of the relationship of mathematics and culture.) Specifically, I will be researching about the arithmetical algorithms and the geome-try of the ancient Maya culture of Meso-america. The classic Maya culture flourished in Southern México, Guatemala, Belize and parts of Honduras between 200 and 900 AD. One of only two cultures worldwide to develop the concept of zero, the Maya used a positional numbers system with base twenty and had advanced mathematical, astronomical and knowledge of geometry. The classic Maya culture collapsed in about 900 and most of their knowledge was destroyed in the 16th century with the Spanish conquest. I hope to be able to share some findings by next fall's issue.

Until then, receive the best wishes for the holidays and please keep the cards and communication coming! You can always reach me via email at falarcon@iup.edu.

Francisco Alarcón

About our students

Scholarships Presented

> *"I am really honored to have been the first recipient of this great scholarship. Dr. Myers really impacted my life and I am just beginning to realize in how many ways now that I am student teaching.*
>
> *He was a great teacher and this is a wonderful way to remember him and all of his contributions."*
>
> *Lyndsay Book*
> Recipient of the James R. Myers Memorial Scholarship

In April 2008,the Math Department awarded scholarships to several outstanding students at the Annual Awards Banquet.

The *James Boytim Memorial Scholarship* was presented to Jennifer Hunter, a Secondary Math Ed. major who will graduate in Spring 2009. The award is presented to a senior of good character who demonstrates the promise of future success in mathematics.

from left to right: Nicole Park, Sarah Romasco, Lyndsay Book, and Jenn Hunter

The *Mildred Reigh Scholarship*, presented to a student who exemplifies mathematics teaching excellence, was given to Sarah Romasco, a Secondary Math Ed. major who will graduate in Spring 2010.

Nicole Park, an Elementary Education major graduating in the Spring of 2009, was the recipient of the *Willard Hennemann Scholarship*, awarded to a student who has a strong commitment to mathematics education at the elementary or middle school level.

The Awards Banquet marked the first time that the *James R. Myers Memorial Scholarship* was given. Dr. Myers' family joined the faculty in congratulating Lyndsay Book, an Elementary Education Major with a Mathematics Concentration.
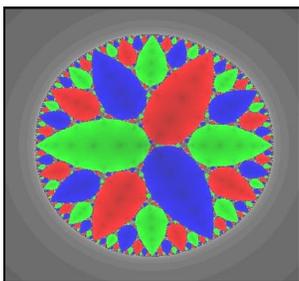
Student Presentations

In April, 2008, several students from the Mathematics Department participated in and gave presentations at two local conferences: The Pennsylvania State System of Higher Education Mathematics Association (PASSHE-MA) meeting at Slippery Rock University and the Mathematics Association of America (MAA) Allegheny Mountain Section meeting at the University of Pittsburgh.

At the PASSHE-MA meeting, Paul Rossman presented *Social Network Analysis and the Mass Media* and Jason Carney presented *An introduction to Complex Dynamics.* At the MAA- Allegheny Mountain Section meeting, the following mathematics department students gave presentations:

- Timothy Muller: *Maximally Non-Matching Covered Graphs*
- Jason Carney: *A Sierpinski Curve Julia Set from 3-Circle Inversion*
- Paul Rossman and Jason Smith: *Location of EMS (Emergency Medical Service) Centers in Indiana County*

A Three Circle Inversion Julia Set

About our Alumni
Math Department Alumna Receives National Recognition

Tessa (Polenik) Anodide (B.S. Applied Mathematics, '03) has been nominated by the Society of Women Engineers (SWE) as one of only five representatives to the 2008 New Faces of Engineering Program.

The New Faces of Engineering program highlights the interesting and unique work of young engineers and the resulting impact on society. Each year, the National Engineers Week Foundation—a coalition of engineering societies , major corporations, and government agencies—asks its members to nominate colleagues thirty years old and younger who have shown outstanding abilities and leadership.

Tessa is a systems engineer in the Advanced Technical Leadership Program for Lockheed Martin in Moorestown, New Jersey. Tessa is also a 2007 recipient of a Young Alumni Ambassador Award from IUP. She will be honored in the winter issue of the SWE Magazine.
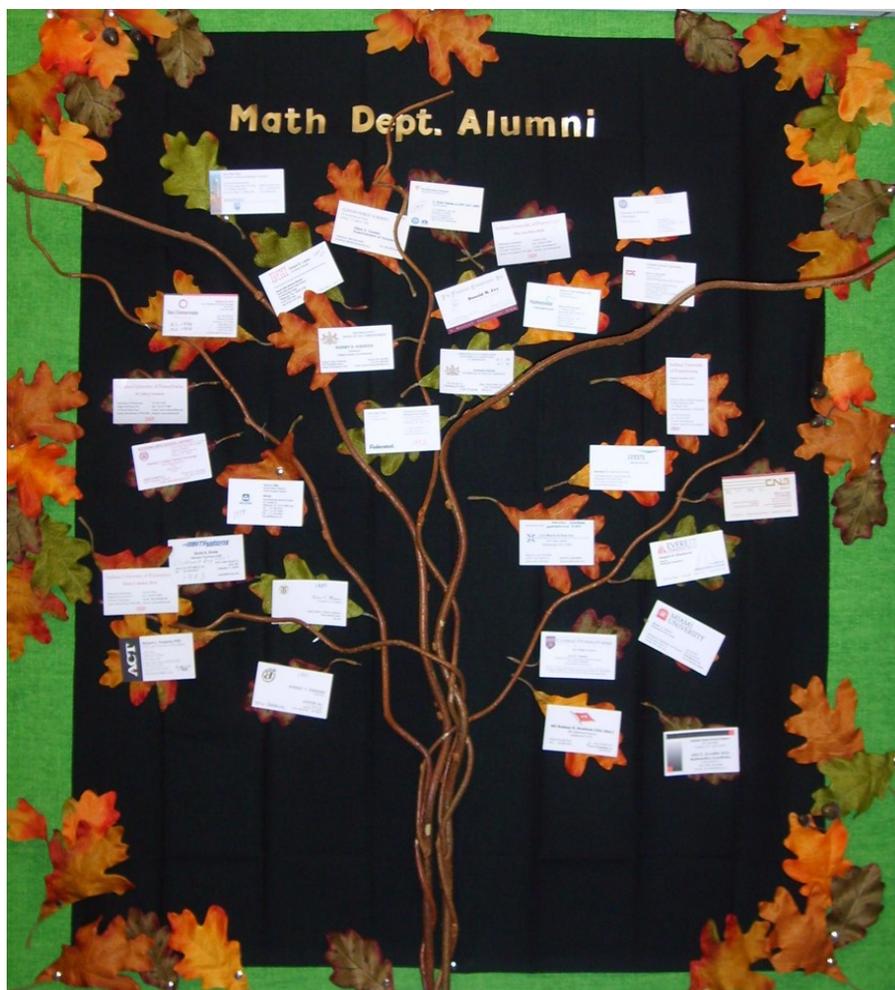
The Alumni Tree Project continues

Thanks to the 30 + alumni who sent in their business cards, the **Alumni Tree** is now beginning to bloom outside of Room 229 Stright. But it could certainly use some more leaves!

We are often asked questions by current or prospective students about careers in the field of mathematics. What better way to answer their questions than by referring them to our alumni tree.   They can then see for themselves what types of careers our alumni have.

If you have a business card that you would like to have displayed on the Alumni Tree, please send it to:

Mathematics Department, IUP
233 Stright Hall
210 S. Tenth St.
Indiana, PA 15705

If you work in a job for which business cards are not typically issued (e.g. teaching), if you send us the appropriate information, we will make a card for you to be displayed on the tree.

New Website Debuts

You may have already noticed that IUP's web pages have undergone considerable changes. Spearheaded by IUP's Office of Communications, the web pages are designed to have a uniform look and feel, be more attractive to potential students as well as alumni, and, behind the scenes, be more visible on search engines.

The new Mathematics department web page can be found at http://www.iup.edu/math/. Do not despair, however. Our old server http://www.ma.iup.edu/ will continue to store information about faculty and house our collection of archived materials. You still want to be able to see old graduation photos, don't you? Speaking of which, do you have any old materials (photos, tests, notes) you wish to share? Scan them and send them in. Don't have a scanner? Do you trust us? Send them to us and we will scan them and send them back, with the electronic copies to boot, as long as you allow us to share them with other alumni and friends. Send materials to:

Gary Stoudt
Mathematics Department
Stright Hall
210 South Tenth Street
Indiana, PA 15705

Connecting Alumni through our Website

With the move to a new format for the website, we now have the ability to dedicate part of the Math Department website to our alumni. We will be collecting alumni information via a form on the department website:

www.math.iup.edu/cgi-bin/alumni.pl

You can provide your name, the company for whom you work, your job title, and e-mail and regular mail addresses. We will not make public the e-mail and regular mail addresses on the website—we will only use those for the purpose of communicating with you.

However, we would like to use your name, company, and job title for recruiting purposes or to answer the question, "What can I do with a degree in mathematics?"

We are exploring additional ways of keeping in touch with you and possibly helping you get in touch with your former classmates. Any suggestions, ideas, or feed back on this process would be greatly appreciated. You can send your comments to:

Gary Stoudt, gsstoudt@iup.edu, Yu-Ju Kuo, yjkuo@iup.edu, or Mary Lou Metz, mlmetz@iup.edu

We look forward to hearing from you!

External Evaluators Complete Review of the Mathematics Department

Dr. Mark A. Smith, Department Chairperson of Mathematics and Statistics at Miami University (Ohio), and Dr. Nathan P. Ritchey, Department Chairperson of Mathematics and Statistics at Youngstown State University, visited the Mathematics Department last spring as part of our five year review required by the Pennsylvania State System of Higher Education. In their report Smith and Ritchey commented on our strengths and on areas we need to improve. As friends and alumni of the Mathematics Department, you might wish to share your insights with us as well. We are in the process of implementing our new assessment plan, and your insight could prove very helpful to us. Also, please keep in mind, if we look good, you look good, and if you look good, we look even better!

Smith and Ritchey noticed that the faculty and staff of the department "are very dedicated to the department, its students, and to each other; the professional climate in the department is very positive." "The Department of Mathematics has an on-campus reputation of being reliable, cooperative, and professional." Faculty in the Mathematics Department have a very long history of service to the University, dating back to the days of M.C. Gordon (of Gordon Hall fame) through Dr. Ike Stright (hmmm, that name rings a bell…), to an impressive list of past APSCUF (faculty union) leaders.

On the facilities side, the reviewers noted "the facilities and classrooms are excellent, in good repair, and equipped well with technology." In addition "small classroom size provides the setting for excellent pedagogy to meet the needs of each student" and "computer laboratories are current and have a wide variety of software available to students." The Mathematics Department has benefitted greatly from IUP's initiative to outfit classrooms with multimedia stations including a PC, DVD/sound system, projector, and document camera. By the time you read this all of our classrooms should be so outfitted, and we are in the process of adding more Smart Board systems (interactive white board technology) to some of our classrooms. Of course the Mathematics Department has been a leader on campus when it comes to computer technology, from back in the days of the old Apple Computer lab to the DEC station cluster, the Silicon Graphics workstations, up to the various computer classrooms we have maintained over the years. We were also a leader in bringing IUP on to the worldwide web.

Smith and Ritchey also made note of the "ample funding for student activities and travel." This is due to you, the friends and alumni of the Mathematics Department. We have ten endowed scholarships, the most recent being the James R. Myers Memorial Scholarship and the Daniel and Diane Griffith Geography and Mathematics Scholarship. We also have endowed funds for student achievement (Mahachek, Elko, and Griffith Funds). Through alumni and friends, our current students have many opportunities, and we would be remiss if we did not take this opportunity to thank you all for your generous gifts, big and small.

Not everything is rosy, however. Smith and Ritchey noted some areas where we need to improve, and we hope you can help us in these areas. The first area is recruitment. Some of you may remember the heady days when IUP had hundreds (really…) of mathematics majors. Now we have about 120 majors (but then again, as Gauss said, "few, but ripe"). The success of our alumni is a key recruiting tool, so please mention your IUP Mathematics pedigree often, and let us know of your accomplishments so we can publicize them. Of course current faculty will have to get out there and pound the pavement as well. We also need to have better ties with business and industry, so our students can benefit from experiential education. You if you work for a company (or better yet **run** a company) that has an outreach, intern, or experiential education program, please let us know.

Related to this is our declining number of course offerings. With a limited number of majors, we simply cannot offer courses with the frequency we once did. As early at 1999 we had to begin offering our courses on a rotation basis rather than every semester (or even once per year). We were also chided for our lack of a strong tie between us and you, our alumni and friends. Since Dr. Mark Smith **is** an alumnus I guess he would know! Perhaps you have noticed it, too. Please help us. We need up to date addresses, emails, etc. Dr. Mary Lou Metz (class of 1976, M.Ed. 1998, making her one of us and one of you!) is on board to help us coordinate our alumni affairs.

It was also noted that we as a faculty need to be more active in scholarly pursuits. Time, resources, and competing priorities hinder us here, but we hope to do better. Please check our News page often to see if we are keeping up. You can find it at http://www.iup.edu/math/news/.

Drs. Smith and Ritchey left us with many good ideas to pursue, and we have already begun implementing some of their ideas. We thank both of them for their time and effort, and we once again thank you, our alumni and friends, for your continuing support.

About our Faculty

Back when I went to IUP...

(NOTE: *This is the first in a series of articles written by Math Department faculty members who are also alumni of the IUP Mathematics Department.*)

Perspectives from the 70's

Being a newly hired faculty member in the fall of 2007, I often find myself comparing my experiences as a student in the mathematics department in the 1970's to the ways in which the department functions in the 21st century.

Gone are the days of incoming freshmen being required to wear their 'dinks' the first few weeks of classes in the fall so that the upper classmen could 'help them out.' (If you don't know what a 'dink' is, then you are younger than you think!) Also gone is the chamber of horrors known as 'arena scheduling' — hundreds of students at a time descending upon the field house to create their schedules by visiting the tables of each department from which they wished to take a class. If you never heard of 'arena scheduling' then you are luckier than you will ever know.

Slide rules were the tools! They were used in mathematics classes (all held in Walsh Hall) to make calculations more efficient. Everybody had one. If you were lucky enough to take a physics lab, you might have had your first experience with a calculator—a desktop machine plugged into an outlet that was far too heavy to be carried around. But there were computers—well, at least one computer. It occupied the basement of Sutton Hall. If you were lucky, after a week, it would run your FORTRAN program from the hundreds of cards you had typed, one command per card. If you were like me, though, it would take 2 or 3 tries because one typo, one card out of order, one missing symbol would result in the following output: ERROR! That was it, after waiting an entire week, one word, short and sweet—you were left to figure out for yourself what the error was.

Times have changed, and for the better, I think. I've been fortunate enough to see the evolution of technology—from that desktop machine that took the drudgery out of manual calculations, to powerful hand-held calculators that do the number crunching so that we can teach and assess mathematics in ways never dreamed possible just 30 years ago. Computers now give us instantaneous feedback on whatever we want (or don't want) to know and allow us and our students to explore and learn mathematical ideas that are ever emerging in our universe.

In many ways, though, times have not changed in the Math Department. As the old saying goes, "The more things change, the more they stay the same." Elaine White is still running, I mean the secretary for the Math Department. (Note: I was Elaine's work study student back when I went to IUP.)

Class attendance still seems to be lower on Friday mornings. Students are still not adequately prepared for college mathematics. I doubt that they ever will be. But, for the most part, they are still eager to learn and still respect the knowledge and expertise for which the Math Department faculty is known.

And, even though the department is now housed in Stright Hall and the names on the office doors have changed, the collegiality among the faculty and the commitment to students first has remained constant. I consider myself extremely fortunate to have been taught by the best and to now be part of the legacy that is the IUP Mathematics Department.

Mary Lou (Dietrick) Metz **(B.S. '76, M.Ed. '98)**

Retirements and other news

- **Bob Early**, a faculty member in the Math Department for 23 years, retired in June 2008.

- **Tom Short** is on a leave of absence from IUP for the 2008-2009 school year and is teaching statistics at John Carroll University in Cleveland, Ohio.

- **Dan Look** is also on a leave of absence from IUP and is a Visiting Professor of Mathematics at Williams College in Williamstown, MA for the 2008-2009 school year.

We get mail...

March 17, 2008

Good afternoon!
I wanted to share some outrageously exciting news: I got accepted to Harvard!!!In one year will obtain my Master's of Education through the Technology, Innovation and Education program. Mainly, I will learn how to create educational media-- and then do it! My focus will be on mathematics educational media and technology, and the fact that Harvard faculty member Joseph Blatt is a leader in this field is what attracted me to the program originally. The program also enables me to take a math class at MIT! This is a dream come true!

I would like to thank each of you for all of your support throughout my undergraduate years and beyond! I will definitely keep you updated on all that is to come!
Truly,
Jillian Orr (B.A. '07)

Update—November 13, 2008

Jillian has been accepted into the David Rockefeller Center for Latin American Studies Puerto Rico Winter Institute. This involves a two week session in Puerto Rico enititled "Development and Organizations: New Paths to Success."

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April 17, 2008
Good Morning,
I read with interest the latest edition of *Stright Lines*. I am a 1965 graduate of the mathematics department and am thankful for the wonderful education that I received at IUP, especially through the math department. (I also am appreciative of the 5 credit Communications courses (English requirements back then) that one was required to take in both semesters of the freshman year.)

Since I haven't been back on campus for at least a dozen years, it was great fun to have this contact and to read about the "IUP's Mathematics Curriculum Through the Years, Part 6". I especially appreciated seeing the names of so many of my "old profs." I remember that three of us purposefully signed up to take George Gavala's Advanced Calculus course as the rumor was that no one ever received higher than a 70 on any of his tests. We wanted the challenge. On the first test, we

each scored in the high 60's; but by the end of the course, all three of us, I believe, scored in the 90's.

I am scheduled to retire from my present position as Superintendent of Schools of the Clinton Public Schools in Clinton, CT, on December 31, 2008, after 43.5 years in education. My IUP education has served me well!

 Al Coviello (B.S. '65)

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July 16, 2008
Dear Dr. Donley:
I finished defending my PhD dissertation yesterday and it was approved.

I got a job (tenure-track) in Fisk University (Math), Nashville, TN. I'll move there in the 2nd week of August.

How are you? Hope you're enjoying the summer and your beautiful house.

Take care.

zia (**Ziaul Haque,   M.S. Applied Math, '01)**

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August 4, 2008

Dear Fred (Captain) Morgan,

I hope you remember me but I sure remember you. Wanted to catch up to tell you how much I am using the material from your statistics course at Philips Respironics. I never thought I would have to use hypothesis testing, confidence intervals, sample size, etc. again, yet I use them almost everyday. Our department is responsible for deploying Six Sigma throughout Philips Respironics and I am preparing to become a Six Sigma Green Belt in October. I will be the first person to go through this training within the company. Our department is also using Minitab and other statistical software to help our engineering teams to determine test criteria for new product development. I just wanted to say thanks for being a great professor and keep up the great work! Some people are actually listening to you and applying it to real world problems.

I hope you are still out golfing and playing racquetball every week.

Jim **(James Gianoutsos, B.S. '06)**

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We're on the Web!

www.iup.edu/math