Stright

Lines

FALL 2010

IUP Mathematics Department Alumni Newsletter

Notes from the Chair

Greetings Alumni! As you receive this fall edition of Stright Lines, the semester is at full swing, and much is happening at IUP and in the Mathematics Department. As is the case everywhere in the nation, the economic downturn is affecting IUP and much time has been spent looking at ways we can be more efficient and economical without sacrificing anything that is important. However, perhaps because of the current economic trouble, more students are choosing to come to IUP and we have had record enrollments in the last two falls. In fall 2009 IUP had its largest enrollment ever with 14,863 students, and this fall we may be at over 15,100 students! That has meant having almost all our courses full to room capacity! In 100 sections of courses ranging from MATH 100 Intermediate Algebra to MATH 272 Introduction to Mathematical Proofs II we had 85 available seats at the end of add-drop!

Construction of the final phase of the residence revival was completed this summer. If you have not been on campus lately, make an effort to visit us in October 9 for Homecoming. You will be surprised of the changes! During the Homecoming weekend we will have an informal breakfast gathering for you in Stright Hall! We will also invite retired faculty, so you may have an opportunity to reconnect with them.

Speaking of retired faculty, you can read elsewhere in this newsletter of the retirement of Professors Fred Morgan and Phil Ray! We will miss them! Fortunately we were able to hire three very promising new faculty over the summer. You can meet two of the new faculty in this newsletter, Drs. Flowers and Stocker joined the department in August, and you will meet the third in the spring newsletter, as Dr. Nosedal-Sánchez will join us in January.

The tradition of excellence in teacher preparation continues in the department. Just a few weeks ago we found out that NCATE has given our department Full National Accreditation. Kudos must go to Dr. Janet Walker who has coordinated the program and prepared the report for NCATE.

The M.S. in Applied Mathematics has experienced a steady growth over the last few years, at the co-direction of Drs. Adkins and Kuo. Late last spring we heard that the National Science Foundation awarded them a 3-year grant to further foster the growth of that program and promote students in other areas to pursue a minor in Mathematics.

As you can see there are lots of things happening in the department. Visit our website to see what is happening and now you can also ask to join our group on Facebook (see news elsewhere). If you prefer a more direct communication, you can always reach me via email at falarcon@iup.edu or calling the department directly at 724-357-2608. Those of you that met me in person know you could even write a letter via snail mail, especially if written with a fountain pen!

~Francisco Alarcon

About our students
Scholarships Presented at Annual Scholarship Banquet

Scholarship awardees from left to right: Gretchen Ludwig, SaraJane Parsons, Kerry Lee Connolly, Katelyn Romesberg, Brianne Thomas, and Leah Marie Wallock

The Mathematics Department awarded scholarships for the academic year at a banquet on April 30, 2010.

Katelyn Romesberg was the recipient of the *Dr. Willard W. Hennemann, Jr., Memorial Scholarship*, awarded to a deserving and worthy undergraduate or graduate student with a strong commitment in the field of mathematics education at the elementary or middle school level. Kateyn is an elementary education major with a mathematics concentration and is from York, PA.

This year's *Tony and Carole Kuczinski Memorial Scholarship* winner was **Leah Marie Wallock**, a secondary mathematics education major from DuBois, PA.

The *Arthur G. Morrell Memorial Scholarship* is given to a mathematics major completing the sophomore or junior year at IUP who best reflects the character and interests of Captain Arthur G. Morrell. The scholarship honors Art Morrell, a 1975 IUP graduate in mathematics education, captain of the football team, and U.S. Marine pilot who died on a training flight. Art's father Wally was an IUP mathematics faculty member, now retired. This year's scholarship was awarded to **SaraJane Parsons**, a mathematics major from Negaunee, MI.

The *James R. Myers Scholarship* was awarded to **Kerry Lee Connolly** from Allison Park, PA. Kerry is an elementary education major with a mathematics concentration. Once again we were honored to have Jim's family present at the awards banquet.

The *Mildred M. Reigh Scholarship* honors the memory of Mildred M. Reigh, professor of Mathematics at Indiana University of Pennsylvania from 1963 to 1981. Miss Reigh was a leader in Mathematics Education both in the state of Pennsylvania and in her work with the National Council of Teachers of Mathematics. Secondary math ed. major **Brianne Thomas** of Homer City, PA is this year's winner.

Gretchen Ludwig was the recipient of the *Rebecca A. Stoudt Memorial Scholarship for Mathe*matics. Gretchen is a secondary mathematics education major from Evans City, PA.

Each of these students represents the best we have to offer in the Mathematics Department. We take the stewardship of these scholarships very seriously, and we are sure that these deserving students will bring honor to the department.

About our students: Awards and Presentations

- **Tiffany Cornman** (Dec '09) and **Drew Moyer** (May '09), both B.S. in Secondary Mathematics, received Undergraduate Research Awards at the Undergraduate Scholars Forum for their Work Samples. Tiffany's award was for "Outstanding Work Sample" and Drew's was for "Outstanding Assessment in a Work Sample."
- **Hayley Markoff** published an article, "Women in Mathematics: Still a Man's World?" in the *Women and Mathematics Education (WME) Newsletter.* Hayley also received an honorable mention for her presentation at the Undergraduate Scholars forum.
- Four students from the Mathematics Department did presentations at Pre-Service Teacher Day , a component of the Pennsylvania Council of Teachers of Mathematics Annual Conference, in November 2009. Hayley Markoff presented her research on "Women in Mathematics—Still a Man's World?"

Alyssa Aiello, Daniele Chahoy, and **Jay Murgi**, all May 2010 graduates with a B.S. in Elementary Education and Elementary Mathematics Concentration, presented their lesson, "All About Pittsburgh," which integrated geometry in the study of the architecture and history of Pittsburgh.

Student presenters: Jay Murgi, Alyssa Aiello, Daniele Chahoy, and Hayley Markoff

Faculty News: Presentations and Publications

- **Dr. Francisco Alarcón** gave a presentation on Leonhard Euler and the Basel Problem at Universidad del Valle in Guatemala City in May 2009.
- **Dr. John D. Baker** published the article "Extra Cheese Wins" in the August 2009 issue of Teaching Children Mathematics.
- **Dr. Yong S. Colen** authored "Funny Face Contest: A Formative Assessment" in the August 2010 issue of Mathematics Teacher.
- **Dr. Alfred Dahma** presented "Generalized Roundedness and the Schatten Class, Parts I and II" to IUP students and faculty in March 2010.

- **Dr. John Lattanzio** presented "Partition Types" at the Midwest Conference on Combinatorics, Cryptography, and Computing in October 2009.
- **Dr. Mary Lou Metz** is a co-author of the middle school textbook series, "Georgia Middle School Math," published by Carnegie Learning.
- **Dr. Edel Reilly** presented at the twenty-first International Conference on Teaching and Learning in Jacksonville, Fla. In April 2010.
- **Dr. Janet Walker** co-authored the chapter "Digital Video in Mathematics Education" in the book *Teaching with Digital Video.*

Retirements

Both **Dr. Fred Morgan** and **Dr. Phillip Ray** retired from the IUP Math Dept. over the summer 2010.

Dr. Morgan came to IUP in 1988 after eight years at Clemson University. Among his many accomplishments, his tenure as graduate coordinator for the department and as director of the College of Natural Sciences and Mathematics Pre-Professional program were the most time-consuming. Many will also remember Fred as one of the founders of the Center for Statistics Education in Pennsylvania and for his work on the first Statistics Education through Quantitative Literacy (SEQuaL) grant in 1992. Most importantly to students, his "hot dogs" will remember him as an entertaining and effective instructor.

Dr. Ray also came to IUP in 1988 after earning his doctorate at the Ohio State University. Students will remember Phil as a meticulous lecturer: logical, coherent, and ready with well-chosen examples. Dr. Ray also made sure the mathematics section of the university library was well stocked. Next time you are in section QA, thank Dr. Ray.

Secondary Mathematics Education Program Receives Full National Accreditation

The IUP Secondary Mathematics Education Program received full national accreditation in July from the National Council for Accreditation of Teacher Education (NCATE).

NCATE is the profession's mechanism to help establish high quality teacher preparation. Through the process of professional accreditation of schools, colleges and departments of education, NCATE works to make a difference in the quality of teaching and teacher preparation today, tomorrow, and for the next century. NCATE's performance-based system of accreditation fosters competent classroom teachers and other educators who work to improve the education of all P-12 students. NCATE believes every student deserves a caring, competent, and highly qualified teacher.

The National Council of Teachers of Mathematics recognized the IUP Mathematics Education program as having "a very strong content component. In the past three years, the 36 teacher candidates have passed the Praxis II test scoring 136 or higher. Nine teacher candidates received recognition from ETS for passing in the top 15% of the field. The program also has a very strong education component with a very well designed and sequenced field experience component culminating with student teaching. An additional strength of the program is that the university professors for both the pre-student teaching courses and the supervisors for the student teaching are members of the Math Department Faculty." NCTM is using IUP's report as a sample of a successful report.

Dr. Mary Ann Rafoth, Dean of the College of Education recognized the efforts of **Dr. Janet Walker** who designed the program's evaluation system, collected data over the past five year, and compiled the report: "I would like to comment Dr. Janet Walker, Secondary Math Education Coordinator, for her hard work in preparing this excellent application. You cannot earn better accolades than those given by NCATE."

Adkins and Kuo Receive NSF Grant

Dr. Rick Adkins and **Dr. Yu-Ju Kuo**, Mathematics Department Faculty received funding for the National Science Foundation Scholarships in Science, Technology, Engineering, and Mathematics program under Award No. DUE 0966206. The **Scholarships–Creating Opportunities for Applying Mathematics (S-COAM)** project awards scholarships to mathematics majors and minors.

Students receiving these scholarships must maintain a high QPA, attend S-COAM meetings, participate in extracurricular activities (such as workshops and colloquia), and take specified applied mathematics courses. Students with majors outside of the Mathematics Department will also declare a minor in mathematics.

The first set of scholarship winners are:

- Kwasi Abrefa-Kodom, a graduate student in the M.S. in Applied Mathematics program from Exeter, PA
- Nathan Adelgren, a graduate student in the M.S. in Applied Mathematics program from Emeigh, PA
- Kristen Lester, a graduate student in the M.S. in Applied Mathematics program from Blairsville, PA
- Nadia Man, a graduate student in the M.S. in Applied Mathematics program from Philadelphia, PA
- William Noel, a graduate student in the M.S. in Applied Mathematics program from Connellsville, PA
- Megan Agosti, a Physics Education major from St. Mary's, PA
- Jennifer Casanova, a Chemistry major from Indiana, PA
- Travis Himes, an Economics/Mathematics major from Rochester Mills, PA
- Julie Kardell, a Secondary Mathematics Education major from Indiana, PA
- Margo MacKenzie, a Natural Sciences/Pre-Engineering major from Somerset, PA
- SaraJane Parsons, a Mathematics major from Negaunee, Mich.
- Jessica Pcola, a Secondary Mathematics Education major from Portage, PA
- Sarah Wissinger, a Mathematics major from Mountville, PA

About our alumni: Panel Discussion with Math. Ed. Majors

Mathematics Department Alumni answering questions at the panel discussion (left to right): Dr. John Uccellini, Mr. William Hadley, Ms. Barbara Carnahan, Dr. Rose Zbiek, Ms. Shari Reed; and students Hayley Markoff and Gretchen Ludwig

The IUP-Preservice Teachers of Mathematics (IUP-PTM) and the Mathematics Department sponsored a panel discussion, "What Can I Do with a Degree in Mathematics Education?"

The program was be held on Thursday, November 12, 2009, at 7:00 p.m. in the Northern Suites. Five alumni of the Mathematics Department, who have a variety of careers in mathematics education, talked about how their careers as teachers of mathematics led them to their current careers. They   also answered questions from students and others in the audience.

Returning department alumni included **Dr. Rose Zbiek** (B'83), professor of Mathematics Education at Penn State University; **Mr. William Hadley** (B'70), co-founder and former chief academic officer of Carnegie Learning; **Dr. John Uccellini** (B'76, M'77), coordinator of K-12 Mathematics for the Indiana Area School District; **Ms. Barbara Carnahan** (M-Elem.Mth), elementary mathematics coach for the Armstrong School District; and **Ms. Shari Reed** (B-Elem.Mth.Conc.), elementary mathematics specialist for the Bellefonte Area School District. The program was organized by **Dr. Mary Lou Metz** (B'76, M'98).

Connecting with our alumni: Homecoming and Facebook!

We are continuing to explore additional ways of keeping in touch with you and possibly helping you get in touch with your former classmates. Two new ventures include:

- **Homecoming Reception:** The Math Dept. is sponsoring a Homecoming Reception for Math Dept. Alumni on **Saturday, October 9, 2010 in Stright Hall at 9 AM in room 202**. Math Dept. faculty and students will be there eager to greet you and to serve refreshments!
- **Facebook Page:** Check out the new IUP Math Dept. Alumni Facebook! Go to www.facebook.com and type IUP Mathematics in the search bar.

Any addition suggestions, ideas, or feed back would be greatly appreciated. You can send your comments to: Gary Stoudt, gsstoudt@iup.edu or Mary Lou Metz, mlmetz@iup.edu

About our Faculty

Math Department Welcomes Two New Faculty Members

Dr. Tim Flowers

I am very excited to be at IUP. I believe we have a great Mathematics Department, and I hope to be here for many years . . . assuming I survive the snow! I grew up in Newport News, Virginia, and we didn't get much wintery weather there.

After high school, I enrolled at Cedarville University in Cedarville, Ohio, as a math education major. During my sophomore year, two courses, Methods of Proof and Combinatorics, helped me realize that I wanted to go to graduate school. So, I pursued a Mathematics major instead, but I used every available elective on the courses in Education (up to and including student teaching). By the time I graduated in 1998, I had received secondary education certification along with a B.S. in Mathematics.

I moved back to Virginia, and spent the next three years as a high school math teacher. I learned quite a bit during that time, and I hope that I am able to use my experiences "in the trenches" to help the Math Education majors at IUP.

In 2001, I moved to South Carolina to begin graduate school at Clemson University. I received an M.S. in Mathematical Sciences two years later with a master's thesis entitled "Ultimately Periodic and Aperiodic Sum-Free Sets." During the next several years, I taught at Clemson part time while working toward a doctorate. During three of those intervening summers, I worked at a National Science Foundation-funded Research Experiences for Undergraduates program as a mentor to some of the undergraduate participants. Another summer, I interned at Wolfram Research in Champaign, Ill. Finally, in 2009, I completed my dissertation, "Asymptotics of Families of Polynomials and Sums of Hurwitz Class Numbers," and received a Ph.D. in Mathematical

Sciences. I stayed at Clemson one more year as a visiting assistant professor.

In May 2010, I was offered this position at IUP, and gladly accepted. My wife and I moved into Indiana Borough a few weeks before the start of Fall semester, and we have enjoyed our time here. We enjoy traveling in our free time, and are looking forward to exploring more of this part of Pennsylvania.

Dr. Russell Stocker

I am originally from Millbrook, N.Y., a small village outside of Poughkeepsie. After graduating high school, I moved to the North Country, where I attended SUNY Potsdam. I earned a B.A. in Mathematics and a M.S. in Secondary Education with a concentration in Mathematics.

After spending a number of cold and snowy years at Potsdam, I accepted a position to teach high school mathematics in South Carolina. Desiring to further my education, I pursued graduate work at the University of South Carolina, where I earned my Ph.D. in Statistics. I completed my dissertation work under the direction of Dr. Edsel Peña. My research focused on a general class of models used to analyze recurrent event data. After graduation I worked at Mississippi State University as an assistant professor. I taught a variety of statistics courses both at the undergraduate and graduate levels. I also continued my research in the areas of survival analysis and reliability.

I personally enjoy photography, cooking, golf, and bike riding. I can often be found exercising in the gym, where I focus on powerlifting and running. I look forward to helping the department achieve its goals and in making good use of the opportunities available both at the university and in the Indiana community.

Twenty one students receive degrees in mathematics

Participating in the May 2010 Mathematics Department Graduation Ceremony (left to right):   Front row: Christine Kester, Jessica Schnebel, Sarah Romasco, Analese Weldy, Latrace Dixson, Wilson Gyasi. Back row: Benjamin Jarrett, Adam Nave, James Martin, Jeffrey Whitmer, and Daniel Ross. Additional photos on the website—www.iup.edu/math

Nineteen students received mathematics degrees at the May 9, 2010 Commencement Ceremonies and two students received degrees at the August 2010 graduation.

MAY 2010

B.S. Ed. Secondary Mathematics Education
Latrace Lee Dixson
James Robert Martin
Adam J. Nave
Sarah Jean Romasco
Jessica Kaitlyn Schnebel
Annalese Kathleen Weldy
Jeffrey Joseph Whitmer

B.S. Applied Mathematics
Ben Lawrence Adovasio

B.S. Mathematics
Dane Steven Alabran
Julie Marie DellAntonio

B.S. Mathematics/Economics
Samantha Marie Gromley
Brett Robert Hollabaugh

M.Ed. Mathematics Education
Rachel L. Caruso

M.S. Applied Mathematics
Amy Burdett Bowser
Wilson Kwame Gyasi
Benjamin J. Jarrett
Christine Kester
Daniel F. Ross
Cody Dean Thompson

AUGUST 2010

B.S. Mathematics
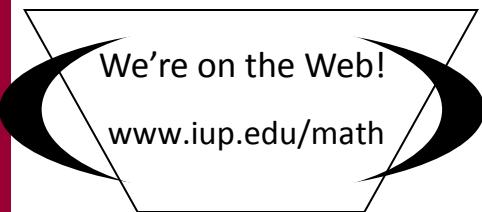Brandon Allen DiGiorgio

M.S. Applied Mathematics
Yao Wang

Congratulations to these students who are now the newest members of the IUP Mathematics Department Alumni!

We're on the Web!

www.iup.edu/math

Welcome to the Fall 2010 edition of

Stright Lines

the IUP Mathematics Department Alumni Newsletter

Please join us:

Math Dept. Alumni Homecoming Reception

Saturday,   October 9, 2010, 12:00 Noon