



September 1999 Issue 1

Mathematics Annual Newsletter

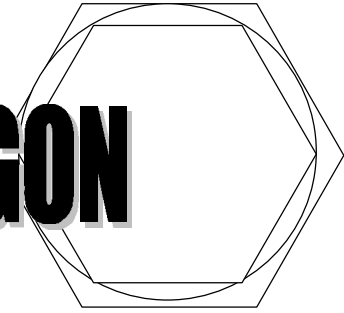
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Rose-Hulman Institute of Technology
Department of Mathematics
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Terre Haute, IN 47803

THE ROSE Polygon



Chairman's Corner

*Dr. S. Allen
Broughton*



After a hiatus of several years our newsletter is back! Thanks to the efforts of Steve Carlson and Patti Staggs, our new-look newsletter is here to give news about the department and, in future issues, news about alumni. Since it has been a while since our last newsletter we are including a bit of old news. If you have any comments about the format let us know. It is not "cast in concrete" yet.

The department continues to change. This year we had a dizzying pace. Two retirements, three faculty moving on, and six new hires! You can read about the details elsewhere in the newsletter.

Our math students also continue to change. Most of our majors nowadays are double majors. In fact, of the approximately 70 majors in all four classes at Rose last year, about two-thirds declared math as a second major. Computer Science with Mathematics as a second major is very popular.

(See this year's list of graduates on page 4.) Fortunately, with all these students and a strong interest in mathematics from other students, we are able to offer our students a rich selection of mathematics courses in the junior and senior years.

In preparing this newsletter we discovered that there are well over 400 Rose alumni with a first or second major in math. In May we graduated our first five female math majors. (See the article on the new graduates.) With all those alumni, surely there is a lot of interesting news to share. Starting in our next issue we will devote a column to alumni news. We also want to devote a portion of our web page to alumni profiles. As you are undoubtedly aware, many prospective students check out their college choices through the Internet. Therefore, we would like them to read about many of our math majors' success stories. Our e-mail address is listed on the last page for you to submit information for the newsletter and/or web page.

You have certainly heard about Rose-Hulman's special 125th anniversary celebrations and of course the annual homecoming festivities. As always, we invite you to visit the department and chat with us at

these events or anytime you are passing through Terre Haute.

Finally, I'd like to give a special thanks to all of you who have given us gifts over the last few years. Many of the student activities you'll read about in this issue have been partially supported by your generosity. In addition, the Theorodrome, our departmental computer lab, has been recently upgraded (see page 4). Thanks to some substantial gifts by mathematics alumni we were able to get a generous cost share from the Institute to bring this lab to an excellent standard. The faculty and students appreciate your support.

Faculty News

George Berzsenyi



George retired from Rose-Hulman after 10 years of dedicated service.

Dr. Berzsenyi served as Department Chairman from 1988 to 1994. He served as the coordinator for the nationally recognized USA Mathematical Talent Search (USAMTS) while at Rose.

George and his wife Kay have moved to Colorado.

John "Jack" Kinney

Jack retired after 25 years at Rose-Hulman. He was honored with a dinner attended by many faculty,



family, and friends.

Jack was instrumental in starting *Camp Retupmoc*, a computer camp for high school students, and hosted *Math for the 21st Century*, a conference for Indiana teachers.

Jack and his wife Cherry have moved to Colorado.

Faculty Receive Honors

Dr. LeRoy Franklin is among four Rose-Hulman faculty to receive a **Fulbright Scholar Award** enabling him to teach in Iceland during the Winter and Spring Quarters this coming school year.

Dr. Ralph Grimaldi, Dr. Robert Lopez, and Dr. Gary Sherman were honored this past Spring with trees planted in their

New Faculty and Staff Join the Department

Dr. David Finn – Comes to Rose from Goucher College. Dr. Finn received his Ph.D. in 1995 from Northeastern University – Boston.

Dr. LeRoy Franklin – Beginning his second year at Rose, Dr. Franklin came to us from ISU. Dr. Franklin received his Ph.D. in 1977 from Indiana University.

Dr. Jeffrey Leader – Arrives from Santa Clara University. Dr. Leader received his Ph.D. in 1989 from Brown University.

Dr. Tanya Leise – Will join us from Indiana University. Dr. Leise received her Ph.D. in 1998 from Texas A&M University.

Dr. Douglas Limmer – Comes to Rose, as a visiting faculty member. He received his Ph.D. from Oregon State University in June 1999.

Dr. Jerry Muir – Travels from University of Kentucky. Dr. Muir received his Ph.D. in 1999 from the University of Kentucky.

Dr. David Rader – Begins his third year at Rose. Dr. Rader comes to us from Rutgers University where he received his Ph.D. in 1997.

Mrs. Patti Staggs – Became the department's 3rd secretary in January replacing Mrs. Cheryl Dodd-Supp who moved to St. Louis. Mrs. Supp was the department secretary for three years after Mrs. Mary Lou McCullough retired completing 30 years in the Math department.

Mr. Ralph Wojtowicz – Mr. Wojtowicz expects to receive his Ph.D. in Fall 1999 from the University of Illinois-Champaign Urbana. Mr. Wojtowicz will serve in a visiting faculty position.

names to recognize them as recipients of the **Board of Trustee's Outstanding Scholar Award**. A second tree was planted to recognize **Dr. Lopez** and **Dr. Sherman** as recipients of the **Deans Outstanding Teacher** award.

Dr. Aaron Klebanoff and **Dr. John Rickert** received the George Polya Award on August 1, 1999 recognizing articles of expository excellence published in *The College Mathematics Journal*

The ASEE Mathematics Division Award Committee selected **Dr. Robert J. Lopez** as the recipient of the **1999 Mathematics Division Distinguished Educator and Service Award**

Dr. Elton Graves received the **Indiana Section Distinguished Service Award** at the Spring 1999 meeting of the Indiana Section of the MAA.

Dr. Steve Carlson was elected **Governor** of the Indiana MAA Section for a three-year term.

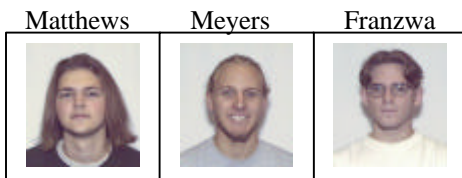
Student News

Student Competitors – Place Among the Best

Indiana College Mathematics Competition

The team of Matt Lepinski, Dennis Lin and Randy Motchan won second place in the 1999 Indiana College Mathematics Competition. Five of the seven

Rose teams were in the top 10 of 33 teams. Advisor: John Rickert



“OUTSTANDING”

Mathematical Contest in Modeling

The four teams and their results were Jonathan Matthews, Jim Meyer, Fred Franzwa (Outstanding) which was among the top nine awards with 400 teams competing; Matt Lepinski, Dennis Lin, Randy Motchan (Meritorious); Bill Richardson, Stephen Young, Curtis Huttenhower (Meritorious); and Kathy Repine, Jennifer Rudolph, Quentin Kramer (Successful Participant). Advisor: Aaron Klebanoff.

10th annual Alfred R. Schmidt Competition

The 10th annual Alfred R. Schmidt Freshman Mathematics Competition was held September 17, 1998. Prizes were awarded as follows: Matt Katinas – 1st , Nathan Froyd and Stephen Young – 2nd , Nathanael Berglund and Kathy Repine – 3rd, Charles Clancy, Shaun Ellis, Joel Ericson, Marques Kirsch, Sandor Pethes, and Philip Stephenson – Meritorious Mention, Sanga Coulibaly, Tom Mackel, Brandon Ress, Noah Siegel and Anna Yokel – Honorable Mention. The competition was organized by advisor Dr. John Rickert.

20th Annual Virginia Tech Regional Mathematical Competition

Among the 186 contestants from 34 institutes, James Meyer finished tied for 11th place. Participants from Rose-Hulman included Matthew Lepinski, David Powder, Peter Webb, Randy Motchan, Elaine Mahler, Matthew Katinas, David Sing, Stephen Young, Brooke Chenoweth, Frederick Franzwa, Nathan Froyd, Dennis Lin, and James Meyer.

58th Annual Putnam Competition

The team of Matt Lepinski, Dennis Lin and Randy Motchan

Upcoming Events



September 10-11, 1999
125th Celebration

Rose will celebrate its 125th year anniversary with several events on Friday and Saturday.

Homecoming Open House
October 2, 1999
Crapo 207

Join the Math Department for food and fun before the football game. For more information call 877-8391.

was ranked 41st among 319 institutions represented by teams.

Additionally Nathanael Berglund and David Powder placed in the top 500 of the 2581 participants. A total of 20 Rose-Hulman students took part in the competition lead by advisor Dr. Steve Carlson.

Student Organizations

Pi Mu Epsilon

Thirty-five students and faculty members attended the Annual Pi Mu Epsilon Banquet on May 4, 1999. Twenty-eight members of the Rose-Hulman student body were inducted into this honorary mathematics fraternity. Dr. Jim Caristi of Valparaiso U. spoke on his work with NASA. During the year the fraternity assisted in many math department projects such as the ARS freshman competition. Advisor: Elton Graves.

Math Club

Club members organized a student workshop for the spring meeting of the Indiana MAA section. The Workshop was supported by a grant from the Exxon Foundation. The club also organized a presentation for the Rose Show. Advisor: Aaron Klebanoff

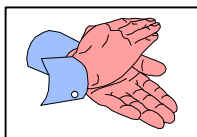
Department News

Faculty Authors

Many of the Math Dept. faculty have recently published or are in the process of publishing books.

Among those who have published are Ralph Grimaldi – **Discrete and Combinatorial Mathematics 4th edition**, John J. Kinney – **Probability- An Introduction with Statistical Applications**, George Berzsenyi - **The Contest Problem Book V**, and LeRoy Franklin – **Business Statistics**. Steve Carlson and Robert Lopez are under contract and are busy completing their manuscripts.

High School Math Contest



The **RHIT High School Mathematics Contest** was a success for the department. **Dr. Ralph Grimaldi** and **Dr. John Rickert** organized this annual event which brought in over five hundred students from across the country.

Undergraduate Math Conference

Dr. David Rader and **Dr. Allen Broughton** planned an outstanding Undergraduate Math Conference in March which drew participants from twenty-two schools.

Invited speakers and their presentations were Colm Mulcahy- Wavelets - A New Tool for Imaging, Graphics And Hollywood and The Curves And Surfaces Of The Digital Age and also Michael Trick- Adventures in Sports Scheduling. Many excellent talks were given by participating undergraduate attendees.

The conference continues to grow in reputation drawing speakers and participants from across the nation.

Theorodrome- State of the Art

Beginning in the Fall of 1994, all students at Rose-Hulman have been required to have a laptop computer. Since that time the focus of the Rose-Hulman academic computer support has switched from providing computing "seats" to providing networking infrastructure, upgraded classrooms and software distribution to support the laptops. Unfortunately, with the rapid change in computing capacities the workstations in our computer lab actually began to fall behind laptop capabilities. During the last two years and especially this year we have addressed this situation by upgrading the Theorodrome, our departmental computer laboratory, with ten state of the art graphics workstations from



SUN Microsystems. Though our students have increasingly powerful laptops we still need a small number of "high-end" workstations for advanced mathematical and scientific computing, simulation, image processing and computer graphics, and some specialized software that is not universally available on the laptops.

As mentioned elsewhere in this newsletter, these purchases were funded partly through alumni donations targeted at equipment and a generous cost share with the Institute.

Math Department Web site

www.rose-hulman.edu/Class/ma/HTML/

Today everyone communicates through web sites. The Rose mathematics department is no exception. Prospective students, faculty, candidates, and other schools all use our web site to find out information about us and our programs such as our Undergraduate Conference and our newly minted electronic journal. We even use it for departmental administration. Faculty use personal web sites to post electronic CVs and to communicate with students in their courses. Our students are very creative in using them for resumes and personal expression.

We want to include our alumni in our web site in two ways. One is to keep in touch with alumni. For instance we will also have a web page for this newsletter (see front page for web address). We also want to devote a portion of our web site to alumni profiles. It will help us answer the perennial question from students: What do I do with a math major? Please let us know if you want to be one of our profiled alumni. Each profile will contain a name, graduation year and major/double major, advanced degrees and distinctions, company or institution, picture (if you have

one), a brief biographical sketch and links to any electronic materials or professional web site you supply. If you are interested in being one of our profiled alumni please let us know and we'll be in contact with you on what to send in.

Alumni News

Keeping in Touch



We want to keep in touch with you! In future issues of the ROSEPOLYGON this column will be a place where you can share news about yourself, your family, and your accomplishments with your fellow alumni. Please send news to:

patricia.staggs@ rose-hulman.edu

or

mail the form on page 7 to the Math Department.

17 Seniors Join Alumni Ranks!

Among our new grads, the majority are going to companies, 4 are going to graduate school, and one will be entering the airforce. For those going on to industry with primary math degrees the average starting salaries were substantially above the national average for math graduates.

Graduates: Spring/Fall 1999

Isaac Adams MA/EC
Jennifer Crone MA/CS

Kimberly Hoss MA/EC
Kyle Lacey MA/EC
James Meyer MA
Mikael Nielsen MA/EC
Jennifer Taylor MA/EC
Joel Tosi MA/CS
Chris Anderson ME/MA
Beth Bateman PH/MA
Brian Dols CS/MA
Erin Gawron CM/MA
Andre Gomes ME/MA
Andrew Harrison CS/MA
Chris Prince PH/MA
Ritchie Taylor CS/MA,
Monideep Mukherjee CO/MA.

SUMMER 1999 PROGRAMS

“ We are always busy!”

Fast Forward

Dr. Ralph Grimaldi was one of the instructors for the fast forward program which is a hands-on, lab intensive summer camp in science, mathematics and engineering for girls completing 7th and 8th grade.

Jump Start

Dr. David Rader and **Dr. John Rickert** taught during the jump-start program. The program is open to those incoming freshmen that want or need to get a jumpstart on college level work.

Quotes from the department bulletin board:

“Indecision is the key to flexibility!”

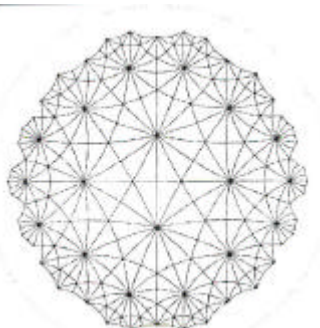
“Acronyms and abbreviations should be used to the maximum extent possible to make trivial ideas seem profound. QED”

REU – Eight Students/Seven Weeks of Undergraduate Research

Eight students from around the country spent seven weeks researching Hyperbolic

Geometry and Number Theory and building lifelong colleague relationships. Dr. Allen

Broughton directed the Geometry group while Dr. John Rickert directed the Number Theory group.



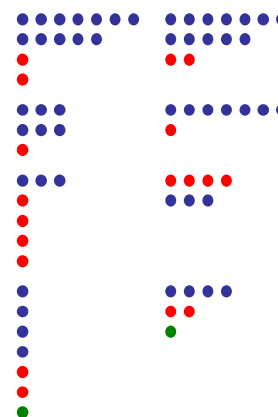
Hyperbolic Geometry

Participating in the Geometry group were Nick Baeth from Pacific Lutheran University, Jason DeBlois from the University of Chicago, Lisa Powell from Harvard University, and Kevin Woods from Wake Forest University.



“We get paid to do this?”

“No, you get paid to explain why you are doing it!”



Number Theory

Participating in the Number Theory group were Ian Blumenfeld from the University at Buffalo, Christi Carlstead from Wellesley College, Mimi Cukier from Carleton College, and Wes Terwey from Valparaiso University.

Fast Track Calculus – More Fun Than You Thought Possible!

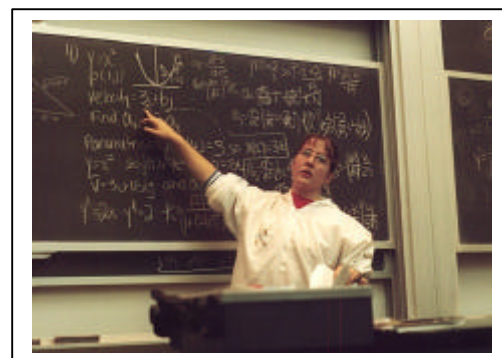
Forty-one students and counselors had more fun than they ever thought was possible doing calculus during an intensive program designed to give students an opportunity to complete three quarters of calculus in five weeks.

Find the point of intersection of the two curves $y = 2x$ and $y = \cos(x)$

$$\int_1^4 \frac{(1 + \sqrt{x})}{\sqrt{x}} dx$$

The program is under the direction of **Dr. Elton Graves** and **Dr. Roger Lautzenheiser**. They are being assisted by five counselors who have “survived” fast track calculus in previous years.

Fast Track Calculus continues to attract about 10% of the incoming freshman class.



Information Form

(Check all that apply)

Please include my
information in the:

Newsletter Web Page

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Personal Information _____

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Professional Information _____

E-mail information to: patricia.staggs@rose-hulman.edu

or

mail to: RHIT, Math Dept. Newsletter, 5500 Wabash Ave., Terre Haute, IN 47803

A Blast from the Past!



1983

The RosePolyGon

This newsletter is published annually by the Rose-Hulman Institute of Technology Mathematics Department.

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