

black; 13.5% Hispanic; 13% Asian).

Women continue to be underrepresented in mathematics faculties, both in America and worldwide. In 2005, only 18% of tenured faculty at U.S. four-year colleges and universities were women, and only 29% of tenure-eligible faculty

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## Number of math majors reaches 40

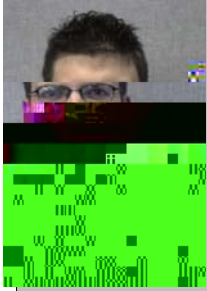
Mathematics is flourishing at Andrews University. This growth reflects the strengths of the Department as well as the strengths of the sciences and engineering. Our accomplishments are worth highlighting, because they are bucking national trends.

In fact, mathematics departments in American universities are losing ground on a number of fronts. Although the total undergraduate enrollment in U.S. four-year colleges and universities rose by 13% from 2000 to 2005, the enrollment in their mathematics and statistics courses was essentially flat (it grew by only 0.43%). During the same time period, the number of bachelors degrees awarded by their mathematics and statistics departments dropped by 2.4%, and the number of degrees awarded by those departments to women dropped by 9.1%. Women earned 43% of the mathematics and statistics bachelors degrees awarded by those institutions in 2005, down from 47% in 2000 (D. J. Lutzer et al. 2005, Statistical Abstract of Undergraduate Programs

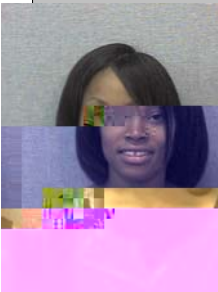
in the Mathematical Sciences in the United States, American Mathematical Society, <http://www.ams.org/cbms/cbms2005.html>).

In contrast, the Department of Mathematics at Andrews University is growing. While the total underdes 43% were black (two females and one male), and 29% were Hispanic (one female and one male). Of the current 40 majors, 35% are women, 25% are black, 15% are Hispanic, and 5% are Asian. This reflects well the diverse demography of the Andrews University undergraduate student

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**Alejandra Alvarado**  
(Mathematics Education  
with Secondary  
Certification, Spanish  
Studies) currently teaches





## Publications

Hayward, J. L., **Henson, S. M.**, Tkachuck, R., Tkachuck, C., **Payne, B. G.**, and **Boothby, C. K.** 2009. Predicting gull/human conflicts with mathematical models: a tool for management. *Natural Resource Modeling* 22:544-563.

Hayward, J. L., **Henson, S. M.**, Banks, J. C., and **Lyn, S. L.** 2009. Mathematical modeling of appendicular bone growth in glaucous-winged gulls. *Journal of Morphology* 270:70-82.

**Ibanez, B.**, **Kang, J. H.**, and Lee, J.H. 2009. Non-negative steady state solutions to an elliptic biological model. *International Journal of Pure and Applied Mathematics* Vol.53, No.3, pp. 385-394.

**Kang, J. H.**, and Jungho Lee 2009. A predator-prey biological model with combined reproduction, self-limitation terms and general competition rates. *Journal of Advanced Research in Differential Equations* Vol.1, No. 1, pp.1-10.

**Kang, J. H.** 2008. Steady state problem of a cooperation model with combined reproduction and self-limitation rates. *International Journal of Pure and Applied Mathematics*, 48, No.3, pp. 373-384.

**Oh, Y. M.** 2009. A construction of Lagrangian submanifolds of complex Euclidean spaces using Legendre curves. *Kodai Math Journal* 32:521-529.

**Weldon, L. M.** wrote Instructor's Guide for the textbook "College Algebra Concepts and Contexts" by Stewart, Redlin, and Watson, published by Brooks/Cole.

## Presentations

**J. H. Kang**, MathFest, Mathematical Association of America, "Positive Steady State Solutions to Population Models", Portland, OR, August 8, 2009.

**Y. M. Oh**, MathFest, Mathematical Association of America, "Lagrangian submanifolds in n-dimensional Euclidean spaces", Portland, OR, August 7, 2009.

**S. M. Henson**, The Second International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems, University of Alabama, Huntsville, AL, October 9, 2009.

**S. M. Henson**, Colloquim, Department of Mathematics, "Bifurcations and chaos in laboratory populations of insects", Colorado College, Colorado Springs, CO, September 18, 2009.

**S. M. Henson**, Colloquim, Department of Biology, "Socially-induced ovulation synchrony in a seabird colony", Colorado College, Colorado Springs, CO, September 17, 2009.

**S. M. Henson**, Plenary speaker, 2009 Workshop for Young Researchers in Mathematical Biology, Mathematical

## Alumni and friends

**Adan Alcala** (MA 1975) is Chair of the math department at Forest Lake Academy. He recently brought 23 students to Andrews for a preview visit.

**Chantel Blackburn** (BS 2006) completed her MS in mathematics at the University of Arizona. She worked with Klaus Lux. The title of her thesis is "An Application of the Computer Algebra System GAP: The Construction of the Simple Modules of a Finite Group". Chantel is now on a GK12 NSF Fellowship and hopes to join the mathematics education PhD program. In June Chantel bought a home in Tucson.

**Christina Burden** (Minor 2006) successfully defended her MS thesis in Biology in July 2009 at Andrews University. Her defense took place at the Walla Walla University Marine Station, near Anacortes, WA. Her thesis involved mathematical models of cricket calls; Shandelle Henson was on her committee. Christina is a PhD student at Arizona State University.

**Garnett Brendan Cross** (Math Studies 2007) recently completed an MS in Engineering at the University of Notre Dame.

**John Gimbel** (BS 1977) is professor of mathematics at the University of Alaska. His research areas are graph theory and combinatorics. At Andrews, he was a

student of Harold Jones, whom he calls "a shining example of what a good scholar as citizen should

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*"[The Jones home] was a place where both people and ideas were appreciated. You could bring up any topic you liked and a good conversation would break out... Contrary points of view were always welcome—nobody took differences of opinion personally... what warm generous people they all were."* —John Gimbel

## Andrews University Department of Mathematics

### Programs

- \*BS in Mathematics
- \*BS in Mathematics Education
- \*Mathematical Studies Major
- \*Mathematics Minor
- \*Mathematics Education Minor
- \*Minor in Mathematics of  
Economics and Finance
- \*Behavioral Neuroscience  
Mathematics Track
- \*Masters in Mathematics and  
Science (Interdisciplinary)

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## Don Rhoads: The \$333 challenge

Last year we started raising money for an Endowed Chair. When fully funded with \$1.5 million, this endowment will support an outstanding research mathematician/teacher on the Andrews faculty and ensure a vital margin of excellence for the Mathematics program. Yes, it's a stretch to raise that much, since all we have now is a little over \$3000.00.

University fundraisers have assured me that they

would be happy to send some major contributions our way—and we'll need them to achieve our goal. But the case for large donations becomes much more compelling if the 300+ alumni of the Department step up and contribute substantially. We, after all, are the ones who have benefited directly from this department's tradition of excellence, and we are the ones who understand the importance of mathematics in the curriculum.

So I'm issuing a challenge: that over the next two years, our departmental alumni contribute a total of \$100,000 toward an Endowed Chair—an average of \$333.00 each. Of course, not everyone will contribute \$333—but many of us can give more. I'm personally pledging \$1,000 this year and next year, for a total of \$2,000. Some of you can do better than that. Please join in and make it happen!

-Don Rhoads, Former Chair

## A generous gift from Germany

On July 8, 2008 I received an email from Diethard Pallaschke, Professor of Mathematics at the University of Karlsruhe:

*During my activity as a mathematician I generated a comprehensive private collection of mathematical books. Almost all of the books are in English, some few are in German, French, Russian and Polish. The complete list of books is attached.*

*Starting with October 01, 2008 I will be retired and will have the status of Professor Emeritus at my university. Unfortunately ...I will not have enough space to store my private book collection, either at home or at my university. Therefore I have decided to offer this collection of books as a present to your university.*

When I opened the attachment, I found a well organized list of books, book series, handbooks series, conference proceedings, and other

items, including the Encyclopedia of Mathematics, which is an updated and annotated translation of the Soviet Mathematical Encyclopedia. The list was 80 pages long! Prof. Pallaschke also graciously paid the shipping charges from Germany to our doorstep.

I asked what motivated him to offer such a generous and valuable gift to Andrews University. He said:

*... I owe my school education to the SDA church. My mother, my brother and I arrived after the Second World War as refugees in the western part of Germany. My father was already (deceased) and my mother was seriously ill. We were very much supported by the SDA church all the time. I finished my secondary school at the SDA Seminar Marienhöhe in Darmstadt. There I passed my secondary*

*school exit examination, which is the obligatory qualification for University admission.*

Professor Pallaschke earned his doctoral degree in mathematics at the University of Bonn. His distinguished career includes stints at the University of Darmstadt, .3(read)5.9  
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