

Winter 2007

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Mathematics Alumni Newsletter

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This newsletter is published semiannually and your submissions are welcome.

If you have an article, a picture, or information that might be of interest to other alumni and you would like to have it published in the newsletter, please send it to:

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Please include your name, mailing address, and email address so we can contact you.

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Greetings From The Chair

First, I want to thank Rick Ball for his years of service as chair of our department. At the time the Department of Mathematics and Computer Science was split into two separate departments in 2001, there were people at DU who were worried about the ability of mathematics to "go it alone." No one is worried any more and this is perhaps the greatest testament to Rick's guidance and leadership.

I am sad to report that Herbert Greenberg passed away on January 1, 2007 in Peoria, Illinois. Herb, the real founder of the modern Mathematics and the Computer Science Departments, was the long time chair of this department. If you have pictures or stories about Herb, please send them to us. (Rick Ball wrote about Herb's contributions and influence in the Summer 2006 issue of this newsletter.)

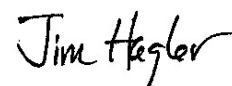
It should not go without notice that Stan Gudder (John Evans Professor of Mathematics) has just celebrated his 70th birthday. It is rare for a mathematician to have such a record of productivity – not just papers but a steady state of high quality, innovative research. To see some of Stan's papers, go to the Mathematics Department website at www.math.du.edu and click Research on the menu bar along the top to get to a Preprints Series page. There you can see some of Stan's recent work, as well as work of others in the department. (You'll need Adobe Reader to view the papers.)

Welcome to Michael Kinyon, who joined the faculty in Autumn 2006. Michael, formerly on the mathematics faculty at the University of Indiana, South Bend, is a world recognized specialist in non-associative algebras and related areas. He has other broad mathematical interests as well, including the history of mathematics. We have already benefited considerably from having him here with us. You'll find a more complete profile of Michael elsewhere in this newsletter.

Also featured in the newsletter are Joel Cohen and Kyungsook Lee, both of whom have retired after years of meritorious service to the university and contributions to their disciplines. Joel still has an office in John Greene Hall and has a current interest in Mathematics of Finance.

As this is being written (late January 2007), a search is underway for three new tenure track Mathematics faculty. We have had more than 600 applications from absolutely stellar candidates and have invited several to interview. The faculty has held several high spirited meetings to discuss our continuing vision of the department and the merits of various candidates – their research records and areas, their teaching qualifications, and so on. This is a very important job for us and we do not take it lightly.

Finally, I want to mention John Greene Hall. With our growth, with the growth of the Computer Science Department, and with the movement of much of the undergraduate curriculum to smaller and more experiential classes, the building is bursting at the seams. John Greene Hall is perhaps not the stateliest building on campus, but we in Mathematics have always felt at home here.



Books And “The Bookman”

Students walking into John Greene Hall often find a table filled with books and a sign reading “Please Help Yourself To Any Books You Would Like”. These books are brought to the department by a gentleman we refer to as “The Bookman” but who is known to the world as Louis Krupp. We asked Louis where these books come from and told him we would like to write about it in our newsletter. He provided us the answer in a question and answer dialogue format.

Q: Is it true that you show up at John Greene every now and then with boxes of old math books?

A: I'm glad you asked. Yes, I rescue them from the book recycle bin at the Eco-Cycle's Center for Hard to Recycle Materials in Boulder.

Q: That's nice. Is it also true that you used Johnny Walker as a study aid when you took Jean Paul Marchand's class on complex variables?

A: No. I used Glenlivet. Johnny Walker is OK for business classes, but for math you need single malt.

Q: How did you get started doing that?

A: I was living in a sort of boarding house on Capitol Hill, and one of the other residents was into Scotch.

Q: No, I mean the books. How did that get started?

A: I'm a member of the Boulder Emergency Squad, and our headquarters used to be next door to Eco-Cycle. One day I took some old computers to be recycled, I looked around, and I saw a big cardboard box full of books. I've been rescuing books for a few years now; I work with Eco-Cycle's book broker, who sells what he can online (splitting the take with Eco-Cycle) and leaves most of the otherwise unwanted books for me.

Q: What happens to the books you don't take?

A: The covers get sheared off and the pages are processed with junk mail and office paper.

Q: They don't do that to math books, do they?

A: Not if I can help it.

Q: Do you rescue anything besides math books?

A: I ship lots of foreign language books to a professor at the University of Texas, and I take books on literary criticism to the English Department at DU. Tons of "general interest" books are dropped off for recycling, and most of those go to a couple of homeless shelters in Denver. When old yearbooks turn up in the bin, I contact the school and ask if they'd have any use for what I've found. Usually, the answer is yes, and I send the book to the school's library or alumni association. I've brought a few copies of Kynewsbok to the archivist at Penrose.

Q: Are there any books that give you particular satisfaction when you rescue them from the shredder?

A: Yes -- old computer science books. I save those for a man in Houston who's trying to get a computer museum going.

Q: Are you surprised at the books you find in the bin, or would you say you've seen it all?

A: I'm still amazed at the breadth and depth of what turns up. You could get a decent, if slightly dated, liberal education reading almost nothing else. You could be better than I ever was at math, with or without the Scotch. And you could learn to be one dynamite FORTRAN IV programmer.

New Faculty— Michael Kinyon

Michael Kinyon is a new assistant professor. He works primarily in non-associative algebra and Lie theory. Most of his current work in the former

area is in quasigroups and loops (an area in which Petr Vojtěchovský also works). Quite a bit of his work in loop theory involves using automated theorem proving software to obtain new results. On the Lie theory side, he is interested in the "coquecrigue" problem for Leibniz algebras, that is, the problem of finding a Lie grouplike object corresponding to Leibniz algebras.

Michael earned his B.S., M.S. and Ph.D. degrees from the University of Utah in 1982, 1986, and 1991, respectively. He started mathematical life in differential equations, and gradually drifted into the fields in which he currently works. (He got tired of people at differential equations conferences not understanding his algebraic take on the subject.) From 1992 until the summer of 2006, he lived in South Bend, Indiana, and was on the faculty at the South Bend campus of Indiana University (not that other famous football-playing university in South Bend you might have heard of). He worked his way up to full professor at IU South Bend.

When the opportunity for coming to DU arose, he decided to go for it despite the fact that it meant starting over as an untenured assistant professor. Luckily, Michael's job offer came on exactly the same day that his wife Kamila was offered a Lecturer position in the new DU Writing Program.

Michael spends most of his nonmathematical time with Kamila and their two kids, Carl (6) and Rebecca (3). He enjoys hiking, but does not know how to downhill ski yet. The Kinyon family lives on the western edge of Centennial, close to the intersection of University Blvd and Dry Creek Rd.

Michael also finds writing about himself in the third person to be a rather odd thing to do.



A Herbert Greenberg Memory

Some time ago Robin Barrisch (BA, 1979) sent us the picture below of Herb Greenberg and Anita Johnson (Nita) who was the assistant to the chair when Herb was the chair of the math department. We wondered about the history of the picture and we asked Nita, who now works as the assistant to the Dean of Arts and Humanities. It seems that in years past, the math department used to field a soccer team in the inter-mural athletic program. Here's what Nita told us about that and the picture.

"Back in the day, the department fielded a soccer team in the inter-mural athletic program, but we were very selective in who we played against. John Bryden (not sure if that's how to spell his name) was the soccer coach and a good friend to Bill D and Herbie. So naturally, we played the soccer team as well as any girl teams that had signed up. Like I said we were sort of selective in whom we played – mind you we rarely won, but had the most fun of any one. These games were held on Friday afternoon and the whole department would shut down and go play or watch. It was great for establishing a "family" atmosphere. The day of the picture was a particularly windy day (as you can see), not too cold, just windy and Herbie was hanging on to me so I wouldn't blow away. Ah, those were the times. A few years later, the soccer games turned into volleyball games that were played every Friday afternoon around 4:00 – weather permitting."



Retirements

Dr. Kyungsook Lee

Professor Kyungsook Lee came to DU in 1990. Her research was within the general area of computer architecture with special interest in inter-connection networks for multiprocessors including optical networks. Professor Lee taught both undergraduate and graduate courses in computer architecture. Her special topics graduate courses in parallel architecture and interconnection networks were especially popular among graduate students. Kyungsook will be best remembered as a strong researcher who mentored many masters and Ph.D. students. She advised and graduated four PhD students: Guoping Liu, Azman Samsudin, Rajgopal Kannan and Radim Bartos.

Professor Lee was truly a respectful and respected professor. She always had a smile and, although often quiet, her laugh lit up the room. Her gentle strength and keen technical prowess will be missed.

- Scott Leutenegger -



Dr. Joel Cohen

Joel Cohen joined the Department of Mathematics in 1969 and retired at the end of academic year 2005-6. Joel served, among too many other contributions to mention, as Chair of the Department of Mathematics and Computer Science Department from 1997 to 2000. None of you who know Joel would be surprised to hear that he is still contributing after retirement—he is on the search committee for the new Dean of the Women's College.

Joel taught many innovative classes through the years. Most recently, his two classes on Computer Algebra have been extremely popular to both mathematics and computer science students, while at the same time being challenging and demanding. We hope he will be willing to offer them again in the near future.

Joel's mathematical interests have changed through the years, from functional analysis to adaptive solutions of partial differential equations to symbolic computation and (now) to computational number theory and mathematics of finance. A casual look at these changes might give the impression of randomness, but a bit more reflection shows that there is a natural intellectual progression from one subject to the next. I first heard about Joel just after I received my degree, when I began to hear talk (in positive terms) about Joel's work on operator theory. Last year, I was giving some talks on Grothendieck's inequality, and I was interested (but not surprised) to learn that Joel had, early in his career, made fundamental contributions to finding the best constant in this inequality.

After the Mathematics and Computer Science Department separated into two separate departments in 2001, Joel became a member of the Computer Science Department. His work, however, has always been highly mathematical and, as any of you who know Joel would expect, his scholarly interests have continued beyond retirement. (Joel's two books on Computer Algebra and Symbolic Computation were featured in the Summer 2003 newsletter.)

- Jim Hagler -



Tea At The Greene

Our tradition of Friday afternoon tea continues. This is an opportunity for faculty, staff, and students to gather in a relaxed atmosphere at the end of the week. In the past, a number of alumni have dropped in to say hello and to share tea and their memories of DU and the math department with us.

These teas are preceded at 2:00 by a graduate colloquium. These consist of student reports on their current research and/or research interests, and of faculty and visitors' lectures on introductory topics in pure and applied mathematics. You're also welcome to attend these colloquia. You can find more information by visiting the math Web site at www.math.du.edu, clicking on Departmental Life, and then the Graduate Colloquium link.

We would be pleased to have you join us for tea on a Friday afternoon at 3:00 in the John Greene Hall lounge or also at the preceding colloquium. Although no advance notice is required, you might want to contact Liane Beights at (303) 871-3344 to confirm that neither has been postponed due to a conflicting event. We look forward to seeing you and to having you bring us up to date on what you're doing.



Photo courtesy of the Brown Palace Hotel

Hockey 2007

This year, the Math Alumni Hockey night is set for Saturday, February 24, 2007 at 7:07 and tickets are available to math alumni for the discounted prices of \$5.00 for the first two tickets and \$12.00 each for additional tickets. Flyers, with a form for ordering tickets, were sent to alumni in the Colorado front range for whom we have addresses. Last year we had over 100 alumni, faculty, staff, and guests. Just prior to the game, alumni pick up tickets and join us for refreshments in John Greene Hall. It's a wonderful opportunity to see old friends and make new acquaintances.



If you haven't received a flyer, but would like to attend the game, please contact Don Oppliger at (303) 871-3072 or by email to dopplige@du.edu by February 20. Act now! Tickets are limited and go quickly.

Math Puzzler

The previous puzzler stated ... Player A and B bet on the total roll of two normal dice. Player A bets that a 12 will be rolled first. Player B bets that two 7s will be rolled consecutively first. They keep rolling until one person wins. What is the probability A will win?

Solution:

Let p be the probability that A wins, then consider the following four events:

- If the first roll is a 12 then A wins.
- If the first roll is anything other than a 7 and 12 then neither side has improved their odds and the probability of A winning is still p .
- If the first roll is a 7 and the second roll is a 12 then A wins.
- If the first roll is a 7 and the second roll is anything other than a 7 and 12 then neither side has improved their odds and the probability of A winning is still p .

We can now express p as follows:

$$p = 1/36 + (29/36)*p + (1/6)*(1/36) + (1/6)*(29/36)*p$$

$$p = 7/216 + (203/216)*p$$

$$13p = 7$$

$$p = 7/13$$

So the probability that A will win is $7/13 \approx 0.538462$.

The following individuals provided responses to this puzzler: Clark Bond (BA, 1960) and David Gwinn (BA, 1973).

For the next puzzler ... After quite a bit of thought, we can't resist presenting this classic problem — in part, because there is at least one interesting story associated with it. Many of you may have seen the problem before.

Two persons were riding their bicycles toward one another, each traveling at a constant 10 km/hr. When they were 10 km away from each other, a fly took off from one bicycle and flew to the other bicycle at 20 km/hr, then it flew back to the other bicycle, and then back and forth until it was crushed between the two bicycles when the two bicycles collided. Pretty stupid fly, all around. How far did the fly fly?

Send answers to sbutz@math.du.edu.

We always like to get news from our alumni. If you have memories you would like to share or would simply like to let us know what you have been doing, please send us a few paragraphs. Send information to: Don Oppliger, DU Math Dept., 2360 S. Gaylord, Denver, CO 80208 or email to: dopplige@du.edu