Dear Friends of the Mathematics Department,

When I became department chair I was surprised to learn that the operational budget of the department is fairly modest. We run the department of 18 faculty, 2 staff, 25 graduate students and about 100 math majors on less than $70k per year. Among other expenses, this includes all office supplies, computer purchases, phone and copier bills, conference travel reimbursements, visitor funds, advertising and outreach materials (such as this newsletter), partial support for alumni events, and some infrastructure improvements.

The other two sources of funding for the department are proceeds from faculty research grants and (yes, you guessed right where this column is heading) donations.

In this issue you can read about the newly established John G. Daly Endowment for Travel and Research Support in the Department of Mathematics, and about a recent donor-supported trip of several graduate students to the largest ever logic conference in Vienna, Austria.

Because the operational budget is so lean, even small contributions can make and have been making a big difference to the scholarly atmosphere at the department, not to mention the ability of many a student to attend DU in the first place. On behalf of all recipients, thank you very much for your generosity!

In other news: John Greene Hall was demolished in April – see below for a few reminiscences and a photo gallery. Ronnie Pavlov has been promoted to Associate Professor with tenure. Kelly Flaherty and Izabella Stuhl are joining the department in the Fall as a lecturer and a postdoctoral scholar, respectively.

Petr Vojtěchovský

If you are thinking of donating to the department, please consider these options:

• Mike Martin Scholarship Fund (an endowed scholarship for incoming math majors)
• John R. and Mary K. Hammond Scholarship (an endowed scholarship for students pursuing a graduate degree in math)
• John G. Daly Endowment for Travel and Research Support in the Department of Mathematics (endowment that supports research-related expenses of students)
• Mathematics Gift Fund

Please contact Liane Beights for more details.

Special Guest Editor: Don Oppliger

I am pleased to be your guest editor for a portion of this Mathematics Alumni Newsletter recalling John Greene Hall. I worked in John Greene Hall for just over 10 years and have many memories, some fond, some less so. I have asked a number of individuals to provide their thoughts about John Greene Hall.

After several false starts, the final demolition of John Greene began on April 14. Even then, the start was not smooth. Workers discovered that they didn’t have a key to the door to get inside and make sure there was nobody inside the building before they started to bring it down. Oh, well... it’s coming down anyway so, they simply used their equipment to rip the south door down. You can see a picture of that on the next page. Ultimately the demolition got underway as shown in the second picture on the next page.
Liane Beights, Assistant to the Chair in the Mathematics Department, worked in John Greene Hall for 17 years. As the movers did the final packing and moving of items from John Greene Hall, Liane had some time to put down some of her thoughts. She has been kind enough to share those with us here.

**My Melancholy Moment, December 2013**

They were bundled in layers, and for some it still wasn’t enough. For two days I watched as the movers staged furniture and stacks of boxes in the hallways and carried and pushed them through the frigid air onto the truck. December 5th and 6th were Denver’s coldest recorded days in three years. This was an especially difficult move because the math office was on the 2nd floor of a building with no elevator, and the weather wasn’t helping.

Colored tags designated the item’s destination. Black was the worst. Discard, it said. Damaged. No room for you. Obsolete. No longer needed. I’ve been in this place too long, I thought. Too much history, too many memories. The sturdy but dated coffee table, salvaged from a curbside years ago, served us well in our makeshift lounge Time for you to go. Sofa donated by a true math friend, damaged. Time for you to go. Framed posters, prints, pictures, all meant something to someone at one time. Damaged or warped. Time for you to go. I visualized a big black tag on our building. Discard. Not efficient. Not pretty – no copper roof or trim here. Standing in the way of progress. Time for you to go.

As the last of the items left the staging area, I thanked the movers one last time for their hard work and regretted that the hot chocolate packets were moved out the day before. I returned to what was my office for 13 of the 17 years I spent in this building and through the thin walls I heard the lift on the truck closing for the final time on this day. Without hurry, I looked around and took in the emptiness, both actual and internal. Emotional emptiness’s are difficult to describe. I was a part of this building as it offered its classrooms and offices as a warm and inviting place of scholarship, camaraderie and growth.

So this is my melancholy moment, I thought. I wrapped my scarf snugly and buttoned my coat, preparing for the arctic outside air, and as I was going through the door for my last time, I saw it. A note one of the movers left on my message board said, “Goodbye John Greene Hall,” and underneath in smaller writing, “I won’t miss the stairs.” It made me smile.

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Dr. Joel Cohen, Emeritus Professor, Mathematics and Computer Science offered the following.

For all its faults, John Greene Hall served us well for many, many years. When I first arrived at DU back in September 1969, Prof. Herb Greenberg, the chair of the mathematics department told me in no uncertain terms that within two years the Mathematics Department would be in a brand-new building. As I remember it, the building was to be six stories high and shared with the Psychology Department and perhaps some other departments. I waited and waited over all these years, but to no avail.

I will miss John Greene Hall, and will cherish many fond memories.

May she rest in peace.

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**We always like to get news about our alumni. Send us a paragraph or two and let us know what you have been doing. Send information to: Jason Myers, DU Math Dept., 2360 S. Gaylord, Denver, CO 80208 or email to: jason.myers@du.edu**

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**Did you know that this newsletter may be read online at www.math.du.edu? Just check the Alumni page!**

Want to go green? If you would prefer to receive an email notification when each edition is published rather than a printed copy, please let us know by sending an email to jason.myers@du.edu.
The department is pleased to welcome two new faculty members in the fall of 2014.

Kelly Flaherty joins us as a full-time lecturer. She completed her undergraduate education at The University of North Dakota and her Masters and Ph.D. at The University of Kansas. She maintains a strong interest in mathematics education and previously taught at two small liberal arts colleges in Kansas, Benedictine College and Baker University, and also at the University of Kansas. In her spare time she enjoys camping, backpacking and skiing, thus making Colorado an exciting place to be!

Izabella Stuhl, who joins us as a postdoctoral scholar, comes to DU from Hungary where she earned two degrees at the University of Debrecen (MSci, 2004; PhD 2010). Her primary academic interests are in non-associative algebraic structures and applications (particularly, in combinatorics), as well as Mathematical Physics. She taught a variety of math courses at the University of Debrecen and the University of Erlangen prior to coming to DU. When not working on mathematics, Izabella enjoys Philosophy, including Religious studies, walking and hiking (particularly in mountainous areas), painting, and drawing.

The department is very grateful to Patricia for her generosity. Her gift will have an immediate and lasting impact on our research-active students, and it is even more special coming from a family with close ties to DU and our department.

The Math Department is pleased to announce the recipients of this year’s student awards.

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Herbert J. Greenberg Award For Outstanding Achievements in Mathematics was established by the Mathematics Department to recognize top students graduating with a degree in mathematics, in honor of Herbert J. Greenberg, founder of the Mathematics and the Computer Science Departments and long time chair of the department. This year the award went to Steven Kordonowy.

Awards for Outstanding Mathematics Majors were given to Madeline Doering, Yitong Jing, Suzanne Luff, and Nianzhi Tang.

Current graduate student Drew Ash received two awards for his teaching during the past school year. Drew was awarded the GTA teaching excellence award by the department and the 2014 NSM Student Teaching award on behalf of the Division of Natural Sciences and Mathematics.

John Daly received his bachelor’s and master’s degrees from the University of Denver in mathematics and education, and pursued a gratifying career as a high school mathematics teacher, where he was beloved and influenced countless high school students. Dan Daly, son of John and Patricia, received his master’s degree and doctorate from the Mathematics Department, and is now an associate professor of mathematics at Southeast Missouri State University.

The Daly family wishes to honor John’s memory by supporting the research and travel of students in the Mathematics Department. This fund will provide support for research-related expenses of our students with preference given to graduate students.

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Current PhD student Wesley Fussner attended the Vienna Summer of Logic conference this summer and filed the following report:

This July, I had the privilege to attend the Vienna Summer of Logic, the largest gathering of logicians in history. Held in the city where Kurt Gödel studied logic and proved his famous completeness and incompleteness theorems, the VSL comprised twelve large conferences and numerous smaller workshops, with some 2500 attendees. The VSL featured addresses by such eminent scholars as Turing Prize winner Dana Scott and Karp Prize recipient Alex Wilkie, and brought together researchers in a diverse array of subjects, including fuzzy logic, model theory, automated reasoning, knowledge representation in health care, and many other areas. Having generated a tremendous amount of media buzz outside of technical circles, the VSL also brought a rare level of public visibility to logic. Given its grand scope and broad appeal, this monumental event will likely benefit the logical community far into the future.

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Alumni Hockey Night Recap

Another successful alumni hockey night took place last fall. The Pioneers took on the Broncos of Western Michigan University and managed a 1-0 victory over their opponents from the Great Lakes State. Prior to the game the department hosted its usual gathering at John Greene Hall. There was a commemorative aspect to the gathering this year, as a number of pictures of days past in JGH were on display in one of the classrooms. These historical documents generated many interesting conversations. All told, the event provided alumni an opportunity for one final farewell to JGH.

Lacrosse Recap

For the second season in a row, the department hosted a lacrosse game for alumni. The nice spring weather allowed for some additional events prior to the game. We were able to show off the new Anderson Academic Commons where Professor Emeritus Rick Ball gave a quick math talk. Then, in honor of the university’s sesquicentennial, HR led our alumni on an historic tour of campus. Finally, staff and alumni alike got to watch DU’s lacrosse team take on Big East foe Marquette. The Pioneers cruised to a 17-9 victory and claimed the conference title outright with the win.

Events for the 2014-2015 year:

We plan to host hockey night again this year. We have a block of tickets reserved for another tilt against Western Michigan on Saturday, November 8th. Information will be sent out via email so make sure DU has your current email address on file if you would like to receive a flyer when they go out (in an effort to go green we will not be sending out physical flyers again this year). Feel free to check our website as well, where a copy of the flyer will be posted sometime in October.

Alumni input: We would love to have even more alumni involvement in departmental events. If you have an idea for an event that would be of interest to your fellow math alums please let us know! Any chance to get our alums together is welcome.

http://www.du.edu/nsm/departments/mathematics/students/alumni.html

Math Puzzler

Solution to the previous puzzler:

After fooling around with this question for a while, it’s quite tempting to conclude that it’s impossible to partition a square into acute triangles. Surprisingly, it turns out that it is possible! Pictured at right are two solutions. The one on top uses the minimum number of triangles possible (eight), and the picture on the bottom uses many more triangles which are more clearly acute on sight (the maximum angle of these triangles is 72 degrees).

To see that the picture on the top does in fact consist only of acute triangles, recall that any angle ABC is acute if AC is the diameter of a circle and B is outside that circle. Then, notice that the 2 vertices in the interior of the square are both outside all of the dashed half-circles drawn along the edges of the square, which shows that all of the angles which look close to 90 degrees in the picture are in fact acute.

New puzzler: You’re blindfolded, and someone hands you a deck of cards in which exactly 17 cards have been flipped face-up (and the remaining 35 cards are face-down). You have no idea which of the cards are face-up or face-down. Explain how you can separate the deck into two (not necessarily equal!) piles where each of the piles has the same number of face-up cards. You are not allowed to take off your blindfold or damage any of the cards.

Send your puzzler answers to Ronnie Pavlov at Rpavlov@du.edu.