

Summer 2005

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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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A Note From Jim Hagler

In this newsletter, we continue to “look back” at some of the history of the Department of Mathematics. Previously (Winter 2005) we featured excerpts from articles by Professor Albert Recht, chair of the math department in 1943-44 and 1947-49. These articles were the catalyst for a number of letters and e-mails from alumni, which contained both their memories of Professor Recht and updates on their own lives. Among these was a recollection (page 2) by Dr. Arthur Lewis, Jr., who mentioned that his father, Dr. Arthur Lewis, Sr. had also been a member of the department. In response to our request for more information about his father, he sent us the very nice letter which appears on page 3. His daughter was kind enough to provide us the picture reproduced here.



Dr. Arthur Lewis Sr. and Maude Lewis

A second reason to look back is due to a recurring question: “Who was John Greene?” (The department has been housed in John Greene Hall for more than 40 years.) My thanks to Don Oppliger, (whose primary job is to work with TAs and direct Foundations Labs) who pursued the answer to this question. We are pleased to provide some details on page 4.

Conference on Quasigroups, Loops, and Nonassociative Systems

On July 2 through July 9, 2005, the University of Denver Mathematics Department hosted the Mile High Conference on Quasigroups, Loops, and Nonassociative Systems. The conference focused on recent results in nonassociative mathematics, in particular on quasigroups and loops. Contributions from related areas (nonassociative algebras, Latin squares, and computational systems for nonassociative mathematics) were also received.

Invited speakers for the conference included Michael Aschbacher (Cal Tech, USA), Orin Chein (Temple U, USA), Patrick Dehornoy (U de Caen, France), Aleš Drápal (Charles U, Czech Republic), Michael Kinyon (Indiana U, South Bend, USA), and William McCune (Argonne National Laboratory, USA).

The conference was a great success thanks in large part to the hard work of local organizers Dr. Petr Vojtěchovský, Dr. Nic Ormes, and graduate student Dan Daly, as well as the other graduate students who provided support, Mohammed Al-Bow, Melissa Butler, Jeff Edgington, Kyle Pula, Jonathan Von Stroh, and Brett Werner. Many thanks to these people.

In addition to hearing the conference presentations, the participants enjoyed an outing to the Garden of the Gods in Colorado Springs and the Cave of the Winds in Manitou Springs.

A photo from the conference appears on Page 4 of this newsletter and a post-conference Web site at www.math.du.edu/milehigh provides a summary of information about the conference.

Memories of Professor Recht

A number of alumni provided us their memories of Dr. Recht as well as updates about themselves.

From John Adams (BA, 1946) - "It was with interest I received the article about one of my favorites, Albert Recht. One day before class (1945) he was demonstrating skill as a high jumper. I helped him up from the floor, he dusted off, and started the lecture. DU was certainly a full service university for me as it gave me a degree, found me a wonderful wife (58 years), and provided the minister, our friend Walter Sikes (Economics Professor/Minister), all in one year."

From Aubrey Speer (BA, 1943) - "I always enjoy the math newsletters. Especially enjoyed the article about Dr. Recht. He was my Astronomy Professor and I fulfilled my duties for my assistantship by doing some astronomical calculations on a very old computer. My major was math and my math professors were Prof. Gorrel and Dr. Stearns. My minors were Geology and Education. I did my student teaching at a high school close enough to the campus to walk there, but I never did teach. In those days it was Tramway Tech and most of the students came from Denver. I lived in one of the original dorms and still participate in a Round Robin with 5 others who lived in the same dorm. My first job after DU was with the time study dept. at RCA in Camden, NJ. It was interesting and challenging but I preferred this part of the country. I went to work as a Geophysical Computer for Cities Service Oil Co. in Houston, TX. Married there and became a housewife and mother. Lived in Muskogee, OK, Washington DC, Dallas, Shawnee Mission, KS (a suburb of Kansas City), and now in a Retirement Community called John Knox. Still happily married after 56 years. Four children. The oldest graduated from Oklahoma City University and has a daughter at DU now. (name is Bethany Speer). Next is a daughter who lives in a nearby suburb. The daughter graduated from KU and is in Human Relations. Next daughter lives in Lawrence and attended KU. She is a pretty good artist and has done a great job of raising 7 kids. Oh yes, the son in OK City is a business major and a land man for an oil co. The youngest graduated from Rolla as a geological engineer, He lives in Midland, TX and does independent contracting for an oil man (That means finding the oil, being his own business manager and supervising drilling.) He also does advisory work on computers."

From Arthur Lewis, Jr. (BA, 1940) - "Your Newsletter article on Albert W. Recht brought back a host of memories. When I attended DU (1936-1940) there were three members in the Math Department: Professor Gorrell, Professor Albert Recht and my father, Professor Arthur Lewis. Professor Recht and father were good friends and together they taught me the art of catching trout on a dry fly in cold mountain streams.

"I worked as a student assistant with Professor Recht at the Chamberlin Observatory. Later I worked with Professor Recht as he completed his doctoral dissertation at the University of Chicago. The dissertation involved computing the path of a comet through the solar system and determining when and where it would become visible. Professor Recht developed formulas based on the gravitational attraction of the sun and the nearby planets that enabled him to chart the position of the comet for every ten day period over a number of years. To make a single calculation required the use of a hand operated calculating machine and took about twelve minutes. Today the orbit could be computed by a computer in a matter of seconds, or minutes at the most. Professor Recht was under a great deal of time pressure since he had to complete his work before the comet became visible. He, another student and I worked around the clock and completed the work. The comet arrived as Recht had predicted, on time and at the correct location. Professor Recht became Dr. Recht.

"As I started my teaching career, as a colleague of Ruth Hoffman at North High School in Denver, I tried to emulate two of Professor Recht's outstanding attributes as a teacher. His lectures emphasized the use of reasoning in deriving mathematical formulas and his examination questions required reasoning rather than rote memory. Another attribute of Professor Recht's teaching was his use of humor. For example, he told us, 'The moon affects the tide as well as the untied!' (That was humor, circa 1938).

"When I became principal of University Park Elementary School (1947-1949), two of Dr. Recht's children attended the school. Later I became Director of Instruction in the Denver Public Schools and Assistant Superintendent in the Minneapolis Schools (1952-1962). I was a professor at Teachers College, Columbia University (1962-1970) and at the University of Florida until I retired in 1984."

Where Are They Now?

Bill Johnson (BA 1964) provided us with the following update about his activities since leaving DU. "I am a 1964 graduate of DU. Taught math for several years in public schools in Iowa and in Oregon. Have been an administrator in education for more than 35 years, and a Superintendent of a School for the Deaf for some 29 years. Retired, and was brought out of retirement six months later to head another school for deaf individuals. I happened to be one of the very few deaf individuals who graduated from DU. The early 1960's were a time when interpreters, notetakers, tutoring, etc. were unknown provisions of service."

We always like to get news from our alumni. Send us a paragraph or two and let us know what you have been doing. Send information to: Don Oppliger, DU Math Dept., 2360 S. Gaylord, Denver, CO 80208 or email to: dopplige@du.edu

Dr. Arthur Lewis, Sr.

After we received the letter (Page 2) from Arthur Lewis, Jr. that

mentions his father as a math faculty member at DU, we decided we would like to know more about Dr. Lewis, Sr. We asked his son to tell us more and he responded with the information below.

"In regard to your request for history regarding members of the Mathematics Department, I submit the following brief history of my father as well as a very brief comment about another member of the department, Professor Russell.

"The grandparents of Professor Arthur Lewis were real pioneers. They crossed the prairie in a covered wagon and homesteaded land near Golden, Colorado in 1859. Prof. Lewis grew up on a farm situated midway between Denver and Golden on West 44th. He graduated from the University of Denver with a B.A. major in mathematics. He then taught in the DU Demonstration High School while completing his M.A. degree in mathematics at the University of Denver, graduating in June of 1907. His first teaching position was as a mathematics teacher in Denver's North High School. From there he went to Albion, Idaho, to teach in Albion State Normal School for two years. His next teaching position was in the La Crosse Wisconsin Normal School. Then he returned to his father's farm in Wheatridge, Colorado, during World War I. He explained his reason for doing this in a letter he wrote to Chancellor Hunter that is quoted in a Memorial for Arthur J. Lewis passed by the University of Denver Senate in 1961.



The Carnegie Library and Buchtel Memorial Chapel as they appeared in 1917, The one tower of the chapel that still stands on campus can be seen. The remainder of the chapel burned down in 1983.

"Professor Lewis began his teaching career at the University of Denver in September of 1926. He was hired by Dr. Russell the Chairman of the Mathematics Department. Dr. Russell had been one of Professor Lewis's teachers and supervised his student teaching. Since you are interested in the history of members of the Math. Dept., let me insert a brief note regarding Dr. Russell. Sometime in the early 1930s I accompanied my parents and siblings for a Saturday visit to the mountain cabin of Dr. and Mrs. Russell. I was very impressed with their beautiful mountain cabin and their new Pierce Arrow car. (The Pierce Arrow touring car was a luxury vehicle for its time.) We returned home on Saturday. When, on the following day, Dr. and Mrs. Russell were returning home their new Pierce Arrow stalled on the railroad tracks on Evans Avenue near South Broadway. A train was coming. Mrs. Russell got out of the car but Dr. Russell kept trying to start his new car. Unfortunately, Dr. Russell was killed when the train hit his car.

"After accepting a position at the University of Denver, Professor Lewis started to work on a Ph D. degree at the University of Colorado in Boulder. When he was ready to start work on his dissertation he explained to me, 'You know a doctoral thesis is supposed to be an original piece of research that adds something new to the field. I am having trouble because almost everything there is to know about mathematics has already been discovered.' The title of his dissertation was "The Solution of Algebraic Equations with One Unknown Quantity by Infinite Series." The University of Colorado awarded him the Ph.D. Degree in August of 1932.

"The three members of the department, Prof. Recht, Prof. Gorrell and Prof. Lewis 'took turns' serving as Chairman of the Department. Professor Lewis was particularly interested in teaching advanced courses on the theory of numbers. He was very intrigued with possible applications of the binary number system. One hallmark of his teaching was that if the class were making satisfactory progress, the Friday session was devoted to what he called 'recreational math.' In retrospect, I now realize that he was really engaging students in higher order thinking camouflaged as recreational mathematics.

(Continued on page 4)

Math Puzzler

The previous puzzler asked ... Suppose Player A has $n+1$ coins while Player B has n coins. Both players toss all of their coins simultaneously and observe the number that come up heads. Assuming all of the coins are fair, what is the probability that A obtains more heads than B?

Solution: The solution lies in the observation that, since A has only one extra coin, A must either throw more heads than B or A must throw more tails than B, but cannot do both. By symmetry, these two mutually exclusive possibilities occur with equal probability and the probability that A obtains more heads than B is $1/2$. (Helen Nielsen (MS, 1976) sent us a correct response to this puzzler.)

For the next puzzler ... A cylinder 48 cm high has a circumference of 16 cm. A string makes exactly 4 complete turns around the cylinder while its two ends touch the cylinder's top and bottom as shown in the figure to the right. How long is the string in cm?



Send answers to sbutz@math.du.edu

Dr. Arthur Lewis, Sr.

(Continued from page 3)

“Professor Lewis had interests that extended beyond the field of mathematics and that led to other ways to serve the University. He was a sport enthusiast, both as a participant and as a spectator. He served on the faculty committee for athletics for many years and coached the men’s

tennis team as a volunteer activity. His interest in the game of chess led him to organize a chess club at the University.

“Like any good teacher, Professor Lewis took a great interest in the welfare of his students. At the 50th reunion of the class of 1940, many of my fellow alumni told of the significant role Prof. Lewis had played in their lives.”

Who Was John Greene?

Many, many thanks to Kathy Mitchell, an Archives Specialist in the DU Penrose Library who was instrumental in identifying and collecting material about Dr. Greene. Also, thanks to James Armstrong who was visiting DU for his daughter Clare’s graduation and who gave us interesting information about John Greene that helped pique our curiosity to learn more about the man.



Dr. John W. Greene

The information provided below was taken from two sources found in the archives of the Penrose Library. The first was some short biographical material and the second was a document entitled *Conversation between Randolph McDonough (Director of Alumni Relations, 1929-58) and Dr. Alfred C. Nelson (Interim Chancellor, 1948-49) on Campus Buildings, Their Namesakes and Histories, with Patricia Dublin, University of Denver Alumni Relations*. Anybody interested in learning more is encouraged to read the full text of these documents. We have posted these on the Web and they can be found by going to the department Web site, www.math.du.edu, clicking on Departmental Life, and then clicking on the links to the Dr. Greene documents shown under the Summer 2005 Newsletter heading.

Dr. John W. Greene was a native of Seattle Washington. He obtained his BS degree in Chemical Engineering from the University of Washington, his MS from the Carnegie Institute of Technology, and his doctorate from the University of Pittsburg. After several years of fundamental research in industry, he joined the faculty of Kansas State and became head of the Chemical Engineering Department in 1942. He came to Denver in 1946 as Chairman of the Chemical Engineering Department where he earned the highest regard of his colleagues and students. On May 22, 1948, Dr. Greene and his colleague at DU, Ralph Conrad, were killed in a tragic rafting accident on the South Platte

River near Deckers. When John Greene Hall was built in 1958, it was named as a memorial to Dr. Greene. Conrad Hall (no longer here) was named to honor Conrad.

Other interesting information to come out of this research was the fact that John Greene Hall was originally a two-story building and a third floor was subsequently added. The cost of the building has been reported as \$239,912. It isn’t clear whether or not this includes the reported amount of \$54,000 for the third floor.



Attendees at the July Conference on Quasigroups, Loops, and Nonassociative Systems.