

# THE BUFFALO ROCK

The newsletter of the  
Department of Geosciences,  
North Dakota State University  
Volume 13, November 2008

## SOME “NEW DIGS” FOR THE DEPARTMENT



The Dairy Building (*circa* late 1940’s). The gravestone for “Noble’s Golden Marguerite” is at left foreground. (NDSU Institute for Regional Studies).

Since 1968, the Department of Geosciences (Geology + Geography) has been housed in the east wing of Stevens Hall, where it has been co-resident with NDSU’s biologists. As both the geosciences and biology programs have grown, so too have the pressures on space in Stevens.

Therefore, it is great news to learn that Geosciences has (additionally) been assigned all of the second floor of “Engineering Tech” – a building directly in the center of campus that was

formerly known as “The Dairy Building” and (later) as “Horticultural Science.”

The Dairy Building is a solid, two-story building of Hebron brick and cut sandstone dating back to 1914. For years, the building was home to the dairy program, and to its milk and cheese labs.

One of the quirks of the building is that in front of it is the grave of “Noble’s Golden Marguerite,” a Jersey cow that in 1921 produced a record 977.7 lbs of butter fat. Upon the death of “Noble’s Golden Marguerite” at the age of 18, she was interred in front of the building – reportedly the only dairy cow ever formally buried on any college campus.

Today, the first floor of the building is home to the Archaeology Technologies Laboratory. Geosciences is shifting some offices and research spaces to the second floor. Students will also enjoy the shady new patio spaces behind the building. Because the building is not ADA-compliant, major remodeling will be required so that instructional spaces on the second floor can be developed. Architectural planning is now underway.



Geosciences faculty (2008) in front of the “Dairy Building.” Front, left-to-right: Ken Lepper and Elaine Hatzenbuehler. Back: Donald Schwert, Bernhardt Saini-Eidukat, Peter Oduor, Allan Ashworth, and Adam Lewis.

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## FROM THE CHAIR

It is our pleasure to highlight once again some of the activities of the Department of Geosciences! The past year has been full of changes, as detailed in this issue of "The Buffalo Rock." The Department is participating in NDSU's remarkable growth. For example, last year NDSU recorded its largest enrollment and its largest freshman class. The Department, too, is seeing an increase in undergraduates, and faculty were major advisors for 11 graduate students. Newly acquired buildings that will comprise a downtown campus will soon be filled with faculty and students - and this may result in some major changes for the Department.

This year we also welcome a new faculty member, Adam Lewis. Adam is an outstanding teacher and researcher of glacial geology and long-term climate change. And we recognize Don Schwert's indelible imprint on so many students and colleagues over the years, as he transitions to a more permanent administrative role in the university.

Watch for a movie being shown at major film festivals, perhaps in your neighborhood:

“Ice People,” which was filmed on Allan’s and Adam's previous Antarctic expedition. Information is available at [www.icepeople.com](http://www.icepeople.com). The film will be shown in Fargo on March 3, 2009 as part of the Fargo Film Festival – and you are personally invited to take part in the opening. We hope you'll be able to join us.

As you know, income generated from the Geo-Alumni Endowment Fund supports student field courses and scholarships. Annually, we award over \$1,000 in scholarships. The 2008 awardees are Sharon Brozo (Geoalumni), Richard Thomasson (Aggasiz), Nicholas Sharp (Brophy Family) and Rani Egeland (Green Hammer). This spring, the Fund will help support the Spring Break Departmental Field Course to southern Utah. Students appreciate your contributions.

We always enjoy hearing from alums, and hope you will drop a line, become a fan of the Department's budding Facebook page, or stop by for a visit!

Sincerely,  
Bernhardt Saini-Eidukat

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## WHERE ARE THEY NOW?

### **CHARLES (“CHUCK”) METZGER (NDSU Geology, 1965 – 1975)**

Chuck and his wife Mary are both retired and living in Denver, Colorado. Mary retired from her law practice in 2000 and Chuck from an active career in many phases of Geology. After leaving NDSU he served as Energy and Natural Resources advisor to Governor Arthur Link for four years. In 1978, he was appointed by President Carter to be the U.S. Department of Energy Regional Administrator for Federal Region 8 and moved to Denver. Mary took this opportunity to go to Denver University Law School and joined Holland and Hart Law firm after graduation. In 1982, Chuck became Vice President of Paraho Development Corporation, an oil shale company developing a retorting process on its leases on Colorado's west slope. In 1987, he joined Hager Environmental testing Laboratory as Vice President of Development and several years later started his own consulting company of Metzger & Associates specializing in environmental

management and litigation. In 1995, he was asked to assess the scientific needs and management structure of the U.S. DOE Yucca Mountain Project, the proposed deep geologic repository for spent nuclear fuels from our power plants and the nuclear Navy. In 1997, he became manager of the support services contract for Booz Allen Hamilton which supplied 150-200 scientists to the Yucca Mountain project. In 1998, he and Mary moved to Washington D.C. where Chuck worked directly with the Washington DOE office. In 2002, he returned to Denver and after being a senior consultant with Yucca Mountain retired in 2004.

Chuck and Mary are traveling extensively, enjoying their mountain cabin and the rich outdoor life of Colorado.

### **... AND GREETINGS FROM THE BROPHYS**

**(John A. Brophy:  
NDSU Geology, 1959 – 1982)**



**Chuck & Mary Metzger  
Colorado, Summer 2008  
charm39@msn.com**



**Peggy and John Brophy  
Corvallis, Oregon  
jpbro@peak.org**

## FOSSIL DISCOVERIES CAPTURE INTERNATIONAL ATTENTION



*Courtesy of Mark Williams, University of Leicester*

Working in the windowless confines of the “Beetle Lab” in the basement of Stevens Hall, NDSU Geology undergraduate Rich Thomasson noticed some odd, football-shaped fossils coming

out of samples that geologists Allan Ashworth and Adam Lewis had collected in Antarctica. The fossils turned out to be 14 million year old ostracods – likely the last remnants of warm-loving animals before Antarctica began its massive and intense climatic cooling. Despite their age, the preservation of the fossils is remarkable. “*Essentially the whole soft parts of the creature were preserved, including its tiny legs and tail,*” notes Ashworth.

These discoveries, published in the August 5<sup>th</sup> issue of the Proceedings of the National Academy of Sciences have directed considerable scientific attention to the research being hosted at NDSU. Among the media picking up the story have the BBC, National Geographic, CNN, and the Discovery Channel. Ashworth and Lewis’ Antarctic research is supported by the National Science Foundation.

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## TRANSITIONS

### **Schwert Shifts to CSME**

Donald Schwert has shifted to a 100% appointment as director for the NDSU Center for Science & Mathematics Education (CSME). Schwert arrived at NDSU in July, 1978. In his CSME role, Schwert helps NDSU compete for and administer large collaborative grants that interface the sciences, mathematics, and education. The CSME currently helps administer ≈\$6 million in grants, mostly from the National Science Foundation and the National Institutes of Health. Schwert will retain his tenure appointment in Geosciences, plus he will continue active service to the department (including some teaching and the editing of this newsletter).

### **Lewis Moves into Tenure-Track Appointment**

Adam Lewis, who arrived at NDSU Geosciences in 2007 as a Research Assistant Professor, has been appointed into a tenure-track position within the department. Lewis fills the

vacancy resulting from Don Schwert’s shifting to an administrative appointment. Lewis’ research focuses on climate change, with his primary field studies focused in Antarctica. This Fall, Lewis undertakes his 8<sup>th</sup> field season of research in Antarctica. Also joining this year’s Antarctic field team are Allan Ashworth and NDSU undergraduate Spencer Salmon.

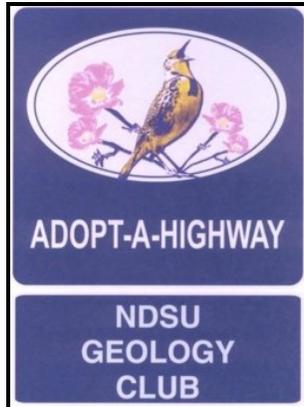
With the appointment of Lewis, the faculty FTE for the department rises to 5.0 – the largest ever in its 104-year history.

### **Hatzenbuhler Appointed to Senior Lecturer**

In April, NDSU President Joseph Chapman approved the appointment of Elaine Hatzenbuhler to the position of Senior Lecturer. This position represents the highest level of lecturer appointment at NDSU. Elaine (and her beloved 1968 Camaro), have been part of the NDSU Geosciences community since August, 1982.

## THE 2008 NDSU GEOLOGY CLUB:

### CONTINUING ITS SERVICE TO STUDENTS, THE DEPARTMENT, AND THE COMMUNITY



Highway cleanup along Interstate-29. Watch for this sign between mile markers 58 and 61. The highway cleaning program has been a continuous Club service since 1998.

"*Bras on Broadway*": the Club designs and submits an artistic bra as part of the annual F-M community fund raiser for breast cancer awareness. Left-to right: Sally Sautner, Sharon Brozo, and Elaine Hatzenbuhler.

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## DEPARTMENTAL HISTORY:

### "THE GEOLOGICAL EXCURSION" AN ACCOUNT OF THE 1904 SPRING GEOLOGY FIELD TRIP

(Republished from The Spectrum, May 15, 1904)

Editor's Note: In these days of modern travel for our geology students, it's pretty hard to match this 1904 geology field trip on a private, chartered railroad car. The trip's leader was Professor Daniel Everett Willard.

*The morning of May 20, the day set for the long expected and often postponed geological excursion, dawned clear and pleasant. Professor Willard and his geological enthusiasts, together with a number of students from the Moorhead Normal and the college baseball team, engaged a special car on the Southwestern, and started at 8:30 for Lisbon. It was certainly a jolly crowd bent on spending the day both with profit and pleasure. The first twenty-five or thirty miles were over the almost perfectly level bottom of ancient Lake Agassiz. The only breaks in the monotony of such a scene were the strips of timber along the Sheyenne River, which appeared as a long continuous line toward the south and west as the*

*train left Fargo, and the numerous small tree clumps, tree claims, buildings, etc., standing as proof of the ability of man to change the appearance of the landscape by artificial means. As the train came near Leonard the plateau of the Sheyenne Delta could be observed rising to a considerable height above the level of the lake bottom. The three beaches of Lake Agassiz, the McCauleyville, Campbell, and Tintah, were crossed as the train ascended the sandy plateau. From Leonard to Sheldon numerous sand dunes could be seen in the distance, especially toward the south. After Sheldon was passed the soil became less sandy and more undulating and morainic in character. At Lisbon the train descended into the broad, deep valley of the Sheyenne.*

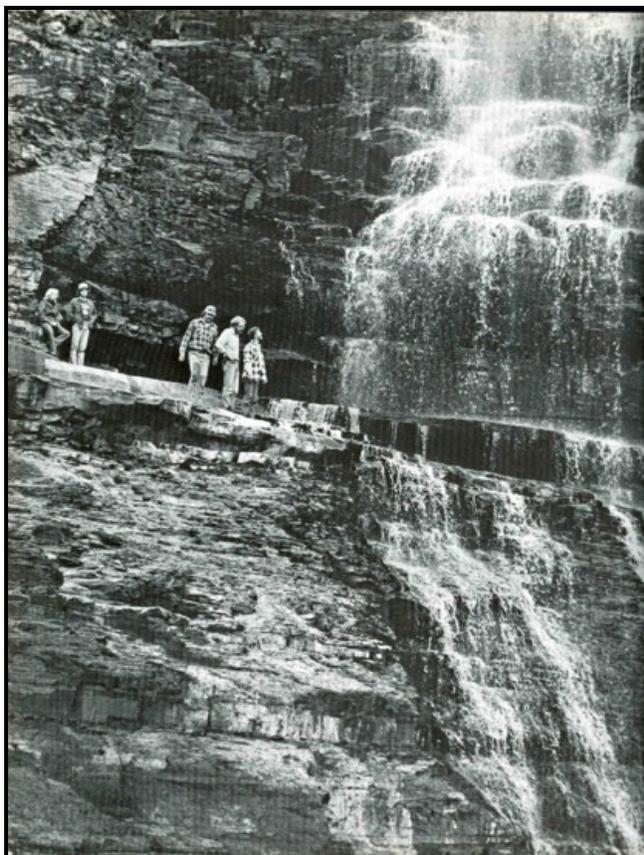
*In the forenoon the whole party took a trip east of Lisbon up the bluffs on the eastern side of the valley. From this point an excellent view could*

be obtained of the city, the great glacial valley extending off toward the north and south. Professor Willard explained the most marked geological features to the party as seen from the bluffs. Numerous glacial boulders, eroded cuts, coulees, Indian mounds, etc., were examined and served as practical lessons to the student. The party returned to the car a little after 12 o'clock where all partook of a sumptuous dinner. Immediately after dinner Professor Willard led the party for a short visit to the Soldier's Home, and on their return all went for a short walk up

the numerous terraces west of the channel of the river. From the top of the last terrace a few morainic knobs could be seen in the distance. In this same terrace was a bank in which a gravel pit had been dug, and the stratification was plainly visible. Here the party broke up, some being attracted by the ball game, and others wishing to make a visit to the city before train time. When the train brought back its load of weary, sunburned excursionists in the evening, all were unanimous in declaring the day a huge success.

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## ... AND DISCOVERED AMONG THE ARCHIVES ...



### The 1977 Geology Club Field Trip

*“From damp sleeping bags on lumpy tent floors to great truck stop meals, from hotdogs and marshmallows to beer, John Denver, and rugby songs around the campfire, from snapshots at scenic stops to endless hours on the road from nowhere to somewhere else, it was a field trip in the grand tradition. The 1977 Geology Club field trip, held May 10 to 15, was also something of an anachronism, being one of a steadily diminishing number of SU receiving grants from the student activity fund. As a result of being so favored, it cost the twenty students and one retired professor who went along only \$20 apiece, plus food and drink. The route extended across Minnesota, up the north shore of Lake Superior to Nipigon, Ontario, east to International Falls, and back to Fargo.*

*At left, five members of the group check out Kakabeka Falls from a ledge where, early the following morning, they returned with soap and towels to take a long-awaited shower.”*

(Reprinted from *The Bison* yearbook, 1977)

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## STUDENT NEWS

### Gorz Recipient of GSA Award

Kelly Gorz was recipient of the “*Historic New Harmony Award*” at the GSA North-Central Conference in April, 2008. The award recognizes the outstanding undergraduate presentation. Gorz

presented the results of her work with Kenneth Lepper on the chronology of beach deposits of Lake Agassiz using OSL dating techniques.



**Fielding is the “Midden Man”**

While on NDSU’s Death Valley field course, senior John Fielding grew increasingly excited about the potential of packrat midden studies for paleoenvironmental analyses. Since then, Fielding has extended his studies of these ancient nests into North Dakota. In October, 2007, Fielding and Ken Lepper discovered packrat middens in rock ledges just south of Medora. Fielding plans to extract plant and insect fossils from the middens. While most middens have been dated using radiocarbon techniques, Fielding and Lepper will be attempting to constrain the age of the midden sample using OSL dating on sand grains trapped within the midden matrix.

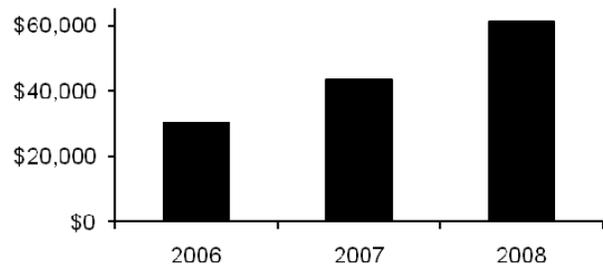
Fielding is a native of Denver, who always had been interested in rocks but instead was making his living through sales of home improvement materials. In 2002, after recovering from injuries associated a car accident in Latvia, Fielding visited the Baltic coast. He hoped to find some amber but instead discovered a rock that appeared to be volcanic. Fielding brought that rock back to NDSU, where he showed it to Saini-Eidukat and Ashworth. Although the rock wasn’t volcanic, its discovery has become the turning point for Fielding professionally.

**NDSU GEOALUMNI ENDOWMENT FUND**

**Q:** When you receive a mailing or that phone call from NDSU asking for a donation, can you target it to support the students in the Geo program?

**A:** Yes! Simply specify that your gift go to the GeoAlumni Endowment. This fund supports field courses and student scholarships. Even a one-time contribution can generate income for years to come through interest accrued to the account. All contributions to the fund are tax-deductible. Many employers will match the donations of employees; for information on how to provide a match, see: [www.ndsufoundation.com/annualfund/matchinggift.htm](http://www.ndsufoundation.com/annualfund/matchinggift.htm)

**GeoAlumni Endowment - October 1**



Enclosed is my gift of \$ \_\_\_\_\_ .

Please detach, and mail with your gift to:  
 NDSU Development Foundation  
 P.O. Box 5144  
 Fargo, ND 58105

Make checks payable to:  
**NDSU Development Foundation – GeoAlumni Endowment**

Thank you!

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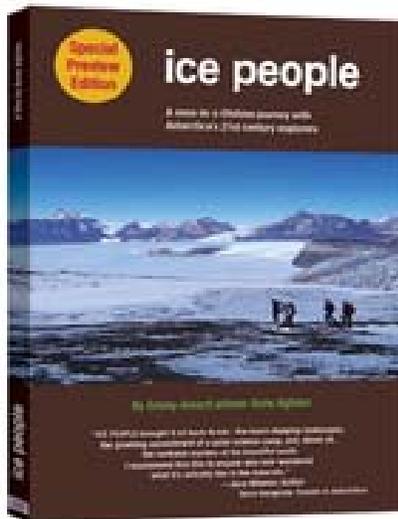


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## YOU ARE INVITED!!!



On Tuesday evening, **March 3, 2009**, Emmy-Award winning filmmaker Anne Aghion, along with NDSU geologists Allan Ashworth and Adam Lewis, will publically screen Aghion's new film, "*Ice People*" at the opening of the **2009 Fargo Film Festival** at the Fargo Theatre. In Fall 2007, Aghion followed and filmed Ashworth and Lewis (along with NDSU Geology undergraduates Kelly Gorz and Andrew Podoll) during their Antarctic field studies. In her film, Aghion seeks to answer what drives dedicated researchers to leave the world behind in pursuit of science, and to capture the true experience of living and working in this extreme environment.

Following the screening, the team will answer questions from the audience. A reception will follow. For further information, visit [www.icepeople.com](http://www.icepeople.com), and watch for announcements at [www.ndsu.edu/geosci](http://www.ndsu.edu/geosci).