



*College of Science E-Newsletter*  
*May 2011*

Dear Friends of the College of Science:

Welcome to the May 2011 issue of the College of Science E-Newsletter.

For those of you have been receiving the College of Science E-Newsletter for some time, you know that we like to feature one department or program in the College each month; this month's featured department is the Department of Geosciences. We also like to brag just a bit about the terrific work that is being done by our faculty, students, and alumni.

It's hard to believe that despite the snow showers we were having on campus as recently as last week, Summer Term began on Monday, May 2. Students are back on campus taking courses and working on undergraduate research projects. Many of the undergraduate research activities are funded through the generosity of friends of the College of Science and Weber State University. Thank you to all of you who have made these activities possible!

We would like to hear from you. Please send us an e-mail from time to time letting us know your thoughts. If you are a graduate of WSU, be sure to let us know what you are up to these days, and how your education at Weber State has helped prepare you for your career. If you are aware of family or friends who should be receiving this monthly E-Newsletter, please forward their e-mail addresses and we would be happy to add them to our distribution list.

Sincerely,  
 Dr. Dale A. Ostlie, Dean

*If you would prefer not to receive future editions of the E-Newsletter, simply reply to this e-mail with REMOVE in the subject heading and we will remove your name from the distribution list.*

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***In This Issue:***

- [\*A Feature Article from the Department of Geosciences\*](#)

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***A Feature from the Department of Geosciences***

The **Department of Geosciences** experienced another exciting year. Students were engaged in a variety of undergraduate research projects, including hydrogeology of alpine wetlands, carbonate weathering processes, paleontological studies in southern Utah, analysis of volcanic strata in central Utah, scanning electron microscopy of fault rocks, and development of the Laramide mountains. Geoscience majors **Michele Sanders** and **Sara Summers** (now in graduate school at Notre Dame) presented published abstracts at the Geological Society of America National Meeting last fall. Geoscience majors **Justin Williamson** and **Spenser Pantone** will be presenting published abstracts at the upcoming Geological Society of America Cordilleran-Rocky Mountain Section Meeting in Logan this May. Justin won the WSU Sigma Xi outstanding student research award in physical sciences for his studies of fossil fresh water rays. Most of these projects were supported with equipment and funding provided by the many generous donations to the College. **Jenny Jorgensen** received the Outstanding Graduate award and Sigma Gamma Epsilon Tarr award. The student Geosciences and Sigma Gamma Epsilon (SGE) Clubs were very active, supporting Science Saturdays, Science Olympiad, and club field trips to Bryce Canyon, Topaz Mountain, Antelope Island, and the Utah Core Research Center. The department continued to improve laboratory facilities, with new computers, new GPS receivers, and licensing for industry-standard software in our GEAR (geospatial and environmental applied research and teaching) lab. Field trips were a key part of our program, including a trip to view volcanic features of Iceland last August (conducted jointly with the Academy of Mining and Metallurgy at Krakow,

Poland) and an upcoming trip to Peru this May (jointly with WSU Anthropology). Below is a sampling of the many activities undertaken by our faculty and students.

**Suzi Nicholson** continued as administrative assistant, department organizer, and student advocate. Suzi updated our department web page and alumni data base.

**Jeff Eaton** continued his sixth year on National Park Service funded studies of the paleontology of Bryce Canyon National Park, which supported students in the field and lab. Jeff served as mentor for three funded undergraduate research projects by **Amanda Gentry**, **Leigh Inghram**, and **Justin Williamson**. Jeff co-authored three publications in major journals on paleontology and biogeography of Cretaceous vertebrates in southern Utah. Jeff was also coauthor on three abstracts at national meetings. Jeff continued to serve as an Associate Editor for the journal *PALAIOS*, as well as reviewing manuscripts for other journals. Jeff will be co-leading a field trip with Anthropology and Geosciences students to Peru this month.

**Rick Ford** completed another year as Chair of the WSU General Education Improvement & Assessment Committee, working to assess and re-certify General Education courses. Rick served as Past President of Sigma Gamma Epsilon, and organized the SGE Student Research Poster Session at the Geological Society of America National Meeting. Rick also served as president of WSU's chapter of The Honor Society of Phi Kappa Phi. Rick taught the upper-division geomorphology class, which incorporated field-based assignments and activities. On the research front, Rick worked with colleagues at Boise State University and the University of Utah on the eolian geomorphology and climate history of southern Utah, and co-authored a revised chapter on the "Geology and Geomorphology of Coral Pink Sand Dunes State Park, Kane County, Utah", published by the Utah Geological Association. Rick also continued to work with department colleagues Marek Matyjasik and Michael Hernandez and students on a project with the National Forest Service, characterizing high elevation wetlands in the Uinta Mountains. This project led to presentations at the Annual Meeting of the Society of Wetland Scientists and Geological Society of America National Meeting. Rick looks forward to more field work in the Uintas, escaping the summer HEAT.

**Michael Hernandez** expertly directed our geospatial program, promoted GIS (Geographic Information Systems) applications across campus, coordinated the WSU GIS Users Group, working with the Utah Automated Geographic Reference Center to promote long-term coordination on GIS issues, and helped develop additional student internships with local government agencies. Michael, along with Drs. Ford and Matyjasik, mentored student research and coordinated image classification of alpine wetland vegetation communities, with results presented at Annual Meeting of the Society of Wetland Scientists and American Society of Photogrammetry and Remote Sensing Annual Conference. Michael was a faculty advisor to HARBOR (High Altitude Reconnaissance Balloon for Outreach and Research), including work with a computer science student to develop GIS tracking software, and worked with Chris Hoagstrom (Zoology) on a biogeographic study of native fish faunas.. With support of an ARCC grant, new computers were added to the GEAR lab, and new GPS receivers and lap tops were incorporated into updated field exercises.

**Marek Matyjasik** continued work with students **Justin Williamson** and **Cassie Grether** on projects analyzing carbonate weathering with the atomic force and electron microscopy, hydrogeology of wetlands, and magnetic properties of minerals. Marek, with Colin Inglefield (Physics) and colleagues in Poland, continued their study of changes in chemical weathering rates in the arctic associated with global warming as part of a Bingham collaborative research grant. Marek presented results at the Geological Society of America National Meeting and the International Microscopy Congress Conference held in Brazil, and published a paper on carbonate weathering in an international journal. Marek, together with Drs. Ford and Hernandez and students, continued research on interrelations between groundwater chemistry and ecological environments in the Uinta Mountains. Marek led a field trip to Iceland, where students observed active volcanic and glacial processes.

**Jim Wilson** excited students in general education courses about the dynamic nature of Earth, including the devastating earthquake in Japan, and taught key courses for our majors. Jim incorporated the x-ray diffractometer into courses and coordinated a mineral sale to raise funds for field trips. Jim provided extensive service on multiple college committees.

**Adolph Yonkee** continued work on three collaborative National Science Foundation grants dealing with the Neoproterozoic-Cambrian rifting history of western North America, processes of strain softening in shear zones, and development of the Laramide mountain belt with faculty and students from Idaho State University, Utah State University, University of Wisconsin, and Bryn Mawr College. Two WSU students, **Jens Gibbs** and **Spenser Pantone**, helped with field and lab work on these grants, including analysis of samples with the scanning electron microscope. Students from

Bryn Mawr College and Idaho State University also visited WSU to use the electron microscope. Another collaborative National Science Foundation grant on thermochronology and dating of dominant thrust sheets in the Sevier mountain belt was recently funded; Adolph and WSU students will begin work on the project this summer with faculty and students from University of Nevada Las Vegas. Adolph authored an overview article on evolution of the Sevier mountain belt (to be published as part of a guidebook by the Utah Geological Association). With coauthors from the Utah Geological Survey, Adolph revised a field guide to the "Geology of Antelope Island State Park" and completed a geologic map of Fremont Island. Adolph was coauthor on ten abstracts presented at the Geological Society of America National Meeting last fall, American Geophysical Union National Meeting, and the upcoming Geological Society of America Section Meeting this May, and gave invited presentations at the University of Arizona, Utah State University, and Idaho State University.

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