

Augustana

Augustana College
Sioux Falls, SD
57197

DEPARTMENT OF BIOLOGY ANNUAL ALUMNI NEWSLETTER

Summer 2007

FROM THE DEPARTMENT CHAIR ...

Summer greetings to you all. Looking back over the last academic year, it has been a great year for Augustana Biology! Our two new professors, Dr. Laura Beaster-Jones and Dr. Mark Larson, are off to very strong starts in both their teaching and in getting their research projects going. We are very excited about the new courses that Laura and Mark are offering to our students. This coming year, Laura will be offering evolutionary developmental biology (spring), and evolution (interim) for the first time, and this year Mark started offering pharmacology (fall). Last fall we had a record number of students in Biology 120, Bio Principles I (206), and a record total number of Biology majors (192), according to data going back 15 years. We also were able to start funding the Biology Research Endowment, which we established to support student-faculty research in the department. We are blessed to be able to build on the momentum of over 40 years of excellence in our department.

This summer we have a total of 30 students involved in research projects. Nineteen of these students are funded by the South Dakota BRIN (NIH) grant, with the

remaining students being funded from other sources such as USDA, NSF, NIH, and NASA. We are very excited about the research opportunities that we are able to provide for our students, both in Augustana Biology labs, and in other labs in Sioux Falls and beyond. We have students working in labs at Sanford Research, Avera Research, and Hematech, in Sioux Falls. One of our students is doing environmental research in Montana, and one is even participating in NASA research at the Johnson Space Center!

This summer I have a great research team focusing on wheat genetics. We are continuing the project on the High Molecular Weight glutenin genes, and are also starting to work on regulation of the genes involved in the starch biosynthesis pathway. My team this summer includes Rob Ihry from Fargo, ND, Jordan Anderson-Daniels from Brandon, SD, Matt Moldan from Lamberton, MN, Megan Bell from Sioux Falls, and Dr. Eric Storlie, my research/teaching postdoctoral fellow. In late July, Rob, Eric and I will be attending a Gordon Research Conference on Plant Metabolic Engineering in New Hampshire, and presenting a poster on our work.



*L to R: (Front) M. Diggins, V. Olness, L. King, J. Ashton, L. Beaster-Jones, M. Wanous
(Back) E. Storlie, A. Vogelmann, M. Chapman, M. Larson, C. Spencer, S. Matzner, P. Eglund*

2007 ADMISSIONS TO PROFESSIONAL & GRADUATE PROGRAMS



GRADUATE PROGRAMS

Dolphin, Teresa ('06)	K.C. Univ. of Med & Biosci (MS, Biomed Sci)
Hamann, Ellen ('01)	Univ. Idaho (MS, Fishery Biol)
Holste, Ellen ('03)	Mich. State Univ. (MS, Forestry)
Swanson, Shauna	Univ. of N.C., Chapel Hill (Ph.D., Microbiology)

M.D./Ph.D. PROGRAM

Chan, Dan	USD Sanford School of Medicine
Eslinger, Allison	USD Sanford School of Medicine

MEDICINE

Ahrendt, Amanda	Univ. of Nebraska Medical Center
Burge, Robert ('05)	USD Sanford School of Medicine
Jones, Brooke	Univ. of Kansas School of Medicine
Juran, Megan	USD Sanford School of Medicine
Larson, Kelly	USD Sanford School of Medicine
List, Mark	Univ. of Nebraska Medical Center
Nolz, Zachary	USD Sanford School of Medicine
Rahm, Nathan	USD Sanford School of Medicine
Seidel, Erin	USD Sanford School of Medicine
Van Demark, Robert E., III ('06)	Creighton Univ.
Weber, Mitch ('06)	USD Sanford School of Medicine

CHIROPRACTIC

Bosch, John ('04)	Northwestern Health Science Univ.
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OSTEOPATHIC MEDICINE

Gerdes, Lindsey ('05)	Touro Univ., Vallejo, CA
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DENTISTRY

Heinemann, Kim	Univ. of Nebraska
Henriksen, Cody	Univ. of Minnesota
Nerness, Andrew ('05)	Univ. of Minnesota
Schaefer, Daniel	Univ. of Minnesota
Vorwald, Kathryn	Univ. of Minnesota

OPTOMETRY

Quist, Joel	Illinois College of Optometry
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PHYSICIAN ASSISTANT

Fett, Heather	Union College, Lincoln, NE
Vannatta, Kelley ('06)	St. Louis Univ.

PHYSICAL THERAPY

Smith, Hillary	Washington Univ., St. Louis
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This fall will represent a transition for me as I assume the role of Natural Science Division Chair. I look forward to this as a learning experience and an opportunity to get a better division- and college-wide perspective. Steve Matzner will be our new Biology Department Chair, and I am sure will do a fine job. This year I am president of the South Dakota Academy of Science. As incoming president, I gave the speech at our annual business meeting in April. My topic was "Evolution and Faith: Complementary or Conflicting Visions?" I found it helpful to crystallize my thoughts on this important topic and now I also have a document that I can share with my students. If you are interested, you may download my speech at: <http://www.augie.edu/dept/biology/web/faculty/Wanous/EvolutionandFaithSDAS.pdf>. I wish you all the best in the coming year.

Mike Wanous

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My first year in the Biology department at Augustana was exciting and challenging. In the fall I taught Vertebrate Embryology, in the spring I taught Developmental Biology and throughout the year I team taught Biology 120/121 with Steven Matzner.

To further improve my Developmental Biology laboratory, I attended a teaching workshop at the Darling Marine Center in Maine led by the venerable Leland Johnson of Augustana and Eric Cole of St. Olaf College. It was a pleasure to learn classic sea urchin, fruit fly and chick development from such enthusiastic teachers.

This summer I am working in the laboratory with Megan Thooft (2009; Tyler, MN). We are looking at developmental gene expression patterns in the invertebrate chordate amphioxus. In addition to using molecular biology to study gene expression at Augustana, we will also travel to Tampa, Florida to collect amphioxus embryos. Our research is funded by the NIH BRIN grant and the Augustana Research and Artist Fund grant.

I am looking forward to my second year of teaching and taking on the task of advising a new crop of Biology majors.

Laura Beaster-Jones

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Dear friends and former students,

I can't believe that it is the end of summer and a new academic year is about to begin! HL and I are about to leave for the first cruise that either of us has been on. We take off for Alaska on Sunday, August 12 for a week on board ship followed by a week of overland adventures. We were unable to do this last summer, so we are finally heading out this year.

It has not been a quiet year at Augustana, to paraphrase Garrison Keilor. It has been an exciting year, as always. We are delighted to have Laura Beaster-Jones and Mark Larson on board as now-seasoned faculty and to have Eric Storlie with us as our BRIN sponsored postdoc. We graduated a great new crop of

biology majors this spring, at least half of whom are off to graduate and professional schools and several of whom are off to teach the next generation of biologists.

We were privileged to have Dr. Eugene Hoyme, a 1972 graduate with majors in chemistry and biology, return to campus this spring as our Distinguished Alumnus Lecturer. Dr. Hoyme, associate chair of pediatrics and chief of medical genetics at Stanford University, gave a series of excellent presentations on the use of molecular cytogenetics in the evaluation of developmental defects in children, ethical issues encountered in medical genetics, and fetal alcohol syndrome. At the time we asked Dr. Hoyme to visit us, we did not know that he was being sought by Sanford USD School of Medicine to be their new chair of pediatrics and chief medical officer of the new children's hospital now under construction. Dr. Hoyme has accepted this position and has returned to South Dakota, moving from Stanford to Sanford, and it is wonderful to have him here.

A week ago today, we finished up 10 weeks of summer research which included major involvement by many of our students. We were able to fund 19 students under the NIH-BRIN (Biomedical Research Infrastructure Network) program to work in various areas of biomedical research. Research mentors included 6 faculty from Augie and 10 more researchers with faculty appointments at the Sanford USD School of Medicine. The mentors work one on one with the students for 10 weeks. The purpose of the program is to entice students into biomedical research, whether as full time researchers, clinicians, or persons engaged in translational medicine.

We had an additional 11 students engaged in other aspects of biological and ecological research. And, not to be outdone by the biologists, we had 20 some students funded for research in chemistry, physics, and computer science for a total of 50 undergraduates funded by research grants this summer. Augustana has been doing this for decades; but now undergraduate research is expected of students going on to medical school as well as graduate school in the sciences. In July, I attended an NIH meeting in Bethesda where we were assured that there will soon be a call for proposals for a Phase III of the BRIN/INBRE grant, and we will definitely be involved!

Mike Wanous, as you will know from reading his letter, has consented to become the new Science Division Chair and he will be excellent. One of his most major responsibilities will be the shepherding of a new addition on to Gilbert Science Center and a remodeling of the existing wings. GSC had its 40th birthday last year and definitely needs a refurbishing and expansion. Architectural consultants say that GSC was incredibly well planned and built, and that is why it has served us so well for so long. As you can imagine, we are bursting at the seams right now with many wonderful, enthusiastic undergraduates and talented young faculty. One of them, Steve Matzner, will become Chair of Biology and I know he will do a great job!

One of Steve's first jobs will be to lead the search for my replacement in physiology. This will be my last full year of teaching. I love teaching and advising so much that it will be tremendously hard to give it up; but we must

all, sooner or later, turn the reins over to bright new faculty. We have been tremendously fortunate in the people we have hired in the last several years, so we have great hopes of finding a dynamic young physiologist. In 2008-09, I will work part time, finishing out Phases I and II of the BRIN grant, making sure all the assessment is done and the final reports are in place. Then it will be time to turn the reins over to someone else for Phase III of the grant, always supposing it is funded.

Take care and please come by to see us whenever possible. We are always excited to see our alums!

Maureen Diggins

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After three years, I am no longer the "new guy" in the department and have been able to expand my responsibilities beyond the classroom. In addition to my usual teaching in the Biol 120, Cell and the Microbiology courses, I have taken over as the Chief Health Professions Advisor at Augustana. Fortunately, Maureen Diggins has allowed me to gradually take her place in this role and has taught me how to do the job. It's been fun to help students in this capacity. One of the real joys of the job is keeping track of the success of our students as they apply to health professions programs. For example, Maureen and I calculated that, over the past 3 years, our students' acceptance rate for medical school is 88%! That represents a lot of hard work by over 40 Augie grads over the last three years. In addition to health professions advising, I have the opportunity to see our students' excellence through my positions on the Scholarship Committee and on the committee for Augustana's new Honors Program, Civitas.

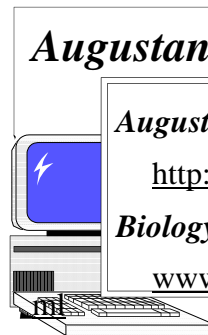
Augustana Web Sites:

Augustana Home Page:

<http://www.augie.edu>

Biology Department Home Page:

www.augie.edu/dept/biology/index.htm



My research on interactions between bacteria in dental plaque is continuing well. I had the opportunity to speak about my research at the South Dakota Academy of Science and at St. Olaf this spring. During the summer, Bart Johnson (Marshall, MN, 2008) joined me on a project aimed at understanding the molecular biology of how one species of oral bacteria changes its gene expression when grown with a second species. Bart did great work, and will continue to work on the project during the school year.

Have a great year.

Paul Eglund
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Those who told me that the first year of teaching would be the most challenging were not exaggerating. Writing lectures and preparing labs for four different courses, including the development of one brand new course, certainly was a baptism by fire. However, the level of intensity of course preparation was equally matched by the exhilaration of teaching itself. I had the honor of working with excellent students this academic year, a feature that made being a first-year professor much simpler. I must also thank my colleagues in the

department for their assistance and patience with me. If they got annoyed by my continual refrains of "One more question for you . . .," they didn't show it at all! I am looking forward to another year of teaching Biology 120, Cell Biology, Biochemistry, and the second offering of Pharmacology. The experience so far has exceeded all of my expectations.

This summer has centered on a collaborative research project with Dr. Bill Harris at Sanford Health. Dr. Harris has long studied the role of omega-3 fatty acids (the kind found in salmon) in cardiovascular health. With his recent move to Sioux Falls, he was interested in learning more about how these fats affect platelets (the small cells that help form blood clots). Having spent the last 7 years working on platelet function, I was more than happy to join forces. Courtesy of the BRIN grant and a research grant from Reliant Pharmaceuticals, Dr. Harris and I are in the midst of a small clinical study to see what happens to platelets when people take high doses of omega-3 fatty acids. We are assisted by three Augustana students: Tina Harris (2008, Prairie Village, KS), Joe Ashmore (2008, Rapid City, SD), and Jessica Vogelaar (2009, Worthington, MN). These three have proven more than capable of running a rather intense study that involves collecting blood samples and running

RESEARCH PROJECTS IN BIOLOGY DEPT. AT AUGUSTANA - 2007 *

Laura Beaster-Jones:	"Somite development in the invertebrate chordate <i>Amphioxus</i> "	Funding: NIH-INBRE	Student: Megan Thooft ('09)
Maureen Diggins:	"Upregulation of cholesterol and steroid hormone biosynthesis in the ovaries of the lethal yellow mouse"	Funding: NIH-INBRE	Student: Mandi Greenway ('08)
	"Confirmation by RT-PCR and RIA of DNA microarray analysis of gene expression in lethal yellow and black control mice" (with Dr. John Brannian)	Funding: NIH-INBRE	Student: Kimberly Te Slaa ('08)
Paul Eglund:	"The genetic mechanism of interspecies communication between the human dental plaque bacteria <i>Streptococcus gordonii</i> and <i>Veillonella atypica</i> "	Funding: NIH-INBRE	Student: Bart Johnson ('08)
Mark Larson:	"Effects of omega-3 fatty acids on platelet function" (with Dr. Bill Harris)	Funding: NIH-INBRE & Reliant Pharmaceuticals	Students: Joe Ashmore ('08); Tina Harris ('08); Jessica Vogelaar ('09)
Steve Matzner:	"Long-term hydraulic acclimation and xylem structure"	Funding: ARAF	Students: Derek Harmon ('10); David Rettedal ('08)
Craig Spencer:	"Post-fire recovery of streams in Glacier National Park following a 1988 forest fire"	Funding: National Science Foundation	Student: Chad Backsen ('08)
Mike Wanous:	"Regulation of the starch biosynthesis pathway genes in wheat"	Funding: NIH-INBRE & USDA	Students: Jordan Anderson-Daniels ('10); Robert Ihry ('08); Matthew Moldan ('10); Megan Bell



* Visit the Biology website to find information about research projects of the 30 biology students involved in research this summer. <http://www.augie.edu/dept/biology/Web/news.html>

a myriad of platelet assays. By the end of the summer, they will have enough data to provide a clearer picture of how this fatty acid can affect the cells in our blood.

None of this research would have been possible without the generous support of the BRIN grant, which allowed for the purchase of several pieces of new laboratory equipment. I purchased a digital imaging station and a spectrofluorimeter that has been the backbone for most of my platelet research. Both pieces of equipment have also provided valuable resources for the classroom labs, with students at all levels getting to use cutting-edge equipment. The BRIN grant also funded all of the basic lab supplies that make my lab completely functional.

The year ahead holds many new challenges for me. I will begin advising students in the fall, and will become the pre-professional advisor for Occupational Therapy and Clinical Laboratory Science. I am also spearheading our efforts to land a large amount of funding from the Howard Hughes Medical Institute, which if successful, would provide a myriad of new opportunities for the Biology Department for the next four years. Finally, I will be leading my first New Student Seminar group with my spouse, Dr. Lindsay Twa, who was recently hired to run the new Eide-Dalrymple Gallery and teach Art History.

Thank you for all your support of our department!

Mark Larson

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I just got done reading an article on swarm theory (July 2007 issue of National Geographic). Apparently individual bees/ants aren't all that smart, but collectively colonies are very good at making complex decisions. In fact, people are studying how bees/ants make complex decisions in order to make computer programs to help solve complex human problems. Once again, another great example of how we really can learn a lot from studying the natural world around us. I am also somewhat comforted by this story as I think about (with some trepidation) becoming the Biology Department Chair this coming fall. Thankfully I am surrounded by great colleagues. I hope I am not faced with a great number of complex problems to solve, but I am heartened by the fact that I have a great deal of "collective intelligence" backing me up.

Some highlights for the year include participating on a USDA grant panel for the Environmental Plant Stress Program (the same program that funded me this past year) which was a great learning experience. I was on the selection committee for the new Dean of Academic Affairs. I am the advisor to Augie Green (student environmental awareness club) which has really been active this past year thanks largely to the work of Jeff Johnson (Sr, Sioux Falls, SD). Tentative plans for this coming year include cleaning the Big Sioux by canoe. I heard from several former students who are starting, working on, or finishing Masters degrees in Ecology/Forestry related fields. Meghan Calhoon (04) and Katie Derr (03) are finishing or have finished their degrees. Kari Pabst (05) is in a remote sensing Masters program at SDSU and Ellen Holste (03) is just starting

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graduate school in Ecology after spending two years in the Peace Corps. There is a new generation of Augie Ecologists out there!

On the teaching front, I was able to team teach a Capstone course with my wife (Dr. Jetty Duffy-Matzner) and Dr. Anna Madsen from Religion this past January. One highlight of the course, "Toward a Sustainable World: Can Science and Religion Guide Us Toward the Promised Land?", was getting front row seats to hear Al Gore talk about global warming. Who knew he could be so funny? Dr. Laura Beaster-Jones was my partner for Biology 121 (the second intro biology class), replacing Dr. Lee Johnson. While I certainly miss Lee, I think Laura and I make a good team and look forward to reshaping that class with her.

On the research front, I am fortunate to have two papers submitted for publication with my name on them. Dr. David Siemens at BHSU submitted a manuscript to Oikos on the evolution of plant defense, which included some transpiration measures I made for him. Also, Craig Spencer and I submitted a paper to American Midland Naturalist on forest encroachment at Newton Hills State Park. I have started working on my new grant "Long-term hydraulic acclimation" funded by the U.S. Department of Agriculture for the next three years (\$177,000 total). David Rettedal (Sr, Scotland, SD) and Derek Harmon (So, Lake Mills, IA) are working on the USDA grant this summer. The overall goals are to determine the importance of hydraulic acclimation (changes in the xylem in response to the environment as the plant grows) and to determine the effects on hydraulic efficiency (ability to supply water to the canopy). We now have a dedicated growth chamber room with 3 growth chambers and we will soon be receiving a fourth growth chamber. My two student researchers spend a lot of time with their shades on tending to the plants in the growth chamber. One of them even got a bit of a sunburn one day (we now have sunscreen).

On the home front, the boys are still participating in karate (Daniel is now a black belt). Daniel just turned 12 and will be spending several weeks visiting the grandparents by himself this summer. Joshua still likes to draw; he recently made a "comic book" entitled "The day Santa Claws met an alien" which was quite amusing. The boys recently discovered the joys of laser tag. Luke, who is six, has not quite mastered the concept of subterfuge. But what he lacks in stealth he makes up for

in sheer persistence. Periodic “gang up on dad” squirt gun fights with the super-soakers have also been a popular past-time this summer. Mom gets to judge who looks the soggiest.

Hope this finds you well. Best wishes.

Steve Matzner

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Science Education 2007:

A return of the Cliff Notes version on the current status of secondary science education at Augustana!!!

The good news is that we produced four excellent teachers this year - all did very well in passing the new PRAXIS licensing “tests” to identify “highly qualified teachers” - both in content and pedagogy. The successful completion of these professional assessments is now required for every education major, both elementary and secondary, before a state license can be issued. So, we can PREPARE them to teach through their four (or five) years at Augie but, until they have cracked the passing score on the respective PRAXIS tests, they cannot teach! But, never fear, all four of our biology/secondary education majors passed with flying colors!!

And all four are going to be gainfully employed as teachers - snatched up before graduation!! One will be teaching in Texas, one in the Sioux Falls district, one at O’Gorman, and one in the ever-expanding Tea district. So, we maintain our reputation for producing knowledgeable teachers who are accomplished in the constructivist epistemology!!

On the home front my “sheep rancher” husband decided to attend a Fleece and Fiber show in Hamilton, Montana - which encompassed the National Icelandic Breed competition. So, we hauled four of this year’s lamb crop 1100 miles over hill (big) and dale and entered two of them into the lamb class. Much to our surprise the ram took 2nd in class and the ewe took FIRST and went on to

win the NATIONAL GRAND CHAMPION ICELANDIC EWE title!! She also won the fleece competition! So, we have a little princess amongst the sheep.....and she was all of seven weeks old! Now we just have to find a ram that is up to her standards!!

I must say that the Bitterroot River Valley of Montana is rather beautiful - the Nez Perce Indians knew good country when they saw it.

On a personal front it hasn’t been such a good year! I unfortunately needed hip replacement surgery in January which, in itself, went very well. I was up walking around the day after the surgery - kicked the walker after two weeks and never went to a cane. Unfortunately nine days after the surgery I experienced an “ischemic episode” (commonly referred to as a stroke)!! This has set me back a wee bit!! No serious long lasting effects, but there are times during teaching when I experience bouts of aphasia - very frustrating, and all I can say is I can’t remember where I was going with this, but I know it must have been interesting!!! Time will heal the little grey cells - but I’m not a patient person unfortunately.

The quote for 2007 is one which I’m trying to adhere to this year:

“Perseverance – it’s not how many times you fall that matters: it’s how many times you get up.”

Val Olness

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Greetings, I am writing this from the Flathead Lake Biological Station in NW Montana. There are 2 Augie students here with me this summer including Susan Delfs (’09) who is taking field classes and Chad Backsen

OUR FACULTY ASSOCIATES

Libby King, M.A. from Univ. of Missouri at Kansas City; Certified as Specialist in Microbiology by, and member of, American Society of Clinical Pathologists. Libby began with Augustana in 1994 and teaches labs in Principles of Biology, General Microbiology and Genetics in the fall and labs in Introductory Microbiology and Cell Biology in the spring. In addition, Libby serves as a technician for the department, preparing labs for the introductory courses as well as microbiology, genetics, and cell biology. libby.king@augie.edu

Eric Storlie, Ph.D. in Crop Science from Montana State University. Eric is our research/teaching postdoctoral fellow, funded by the South Dakota BRIN grant. He is a plant geneticist and is working with Mike Wanous in research. Dr. Storlie is also contributing to teaching in the department. eric.storlie@augie.edu

Ann Vogelmann, Ph.D. in Plant Sciences from Indiana University. Ann served as a Faculty Associate with Augustana in 1997-98 and Adjunct Assistant Professor from 2000 - present. She has taught the Human Anatomy and Intro to Environmental Science courses. She also teaches labs in Human Physiology and Biological Principles I and II.

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('08) who is studying the effects of forest fires on streams in Glacier National Park. This is a follow-up study to one that Kristin Odney Gabel ('93) completed some years ago.

In addition to working with students on various projects, one of the joys of being at Augustana is the opportunity to teach different things. For some years I have enjoyed teaching an Interim course called Winter Ecology and Outdoor Adventure. The lack of snow the last few years together with a desire to try something different led me to Central America this past Interim. Together with 8 adventurous Augie Bio majors, my wife Suzy and I led a course to Guatemala and Belize to study tropical ecology and Spanish. For me, it has turned out to be one of the highlights of my career.

The course was developed during my sabbatical leave of 2005/6. The seed was planted during an NSF Chautauqua short course that I took on marine biology of Belize. This week-long course for college teachers exposed me to some spectacular ecosystems; coral reefs, mangroves, frigate bird rookeries. I decided then and there that I HAD to come back with students. In addition to studying field biology, I also wanted students to experience the culture and people of the region. This led me to neighboring Guatemala where I happened upon Henry Sanchez. Despite my Spanish, which at the time was muy mal, I somehow wound up on the back of Henry's motorbike, bouncing along some crazy dirt roads, ultimately to the amazing little village of San Jose and the Biotza Ecocultural Spanish School. I decided then and there that I HAD to come back with students.

Back in SD, and in preparation for my Interim course, I took a year of Spanish classes at Augie. I found it invigorating and enjoyable to be a student again. I also think it was good for me as a teacher, to experience things from the perspective of a student after so many years.

In January '07, I returned to Central America with my class. We started with a week of total Spanish immersion in San Jose Guatemala, living with host families, and studying Spanish one-on-one, for 4 hours every morning, each student with their own teacher. We then went on a 30-mile trek with Henry, through the Maya tropical forest reserve, sleeping in hammocks, and experiencing the incredible forest, complete with 700 year-old mahogany giants and primates aplenty. Our trek ended in Tikal National Park, where we spent 3 days exploring the incredible ruins of the ancient Mayan city of Tikal. Then, we were off to Belize, and our home base of South Water Caye situated 14 miles off the coast on the second largest barrier reef in the world. Overall, it was an amazing experience for us all. I am planning to take another group down there in January '08.

On the home front, it looks to be a memorable summer as our daughters Elizabeth and Sarah are

Reef Aquarium

The Department thanks Justin Lovrein ('99) for the wonderful gift of a 125 gallon reef aquarium! This addition to the department has become a fascinating favorite of students, faculty, and others who pass through GSC. It is always fun to discover where the sea urchin is now. Some of the organisms present are soft corals, stony corals, anemones, a sea urchin, hermit crabs, marine snails, a cleaner shrimp, bubble algae, and several species of colorful fish (tang, clown fish, cardinal fish, and an engineer gobi). This gift has added beauty to the department, as well as providing living examples of diverse organisms for courses. Thanks, Justin!!!



both getting married. So, that's my update for now. I look forward to hearing updates from YOU when you feel so moved.

Saludos,

Craig Spencer
craig.spencer@augie.edu



Craig Spencer's Interim Class, "Guatemala and Belize: Coral Reefs, Tropical Forests, Mayan Ruins & Spanish Language Immersion"

2007 BIOLOGY ALUMNI FILE UPDATE

If you have accomplishments and/or changes in your life, we like to know! Help us keep our alumni file up-to-date and take a minute to fill out the form below.

Name _____
First Maiden Married

Year Graduated _____ Phone _____
Current
Address _____

e-mail address _____
Current Occupation/
Place of Employment _____
Graduate or Professional School
Preparation in Progress or Completed: _____

Personal News/Professional News
You Want Us To Know: _____

If you know of potential students for Augustana College, please provide us with their name, address and phone number so that we may contact them.

Name _____

Address _____

Phone _____

Name _____

Address _____

Phone _____

MAIL TO: **Department of Biology**
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Sioux Falls, SD 57197

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