

CSB/SJU BIOLOGY DEPARTMENT NEWSLETTER

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November 19, 1998

1. Message from the Chair

This past weekend the science departments and Admissions Office hosted Science Day which is an opportunity for prospective students to visit campus and learn about our program. I want to thank everyone who participated in this program, including most of the biology department faculty and many students. My role was to show-off the herbarium and greenhouse and to give an introductory welcome to the group about all of the sciences. As I put my 10 minute talk together I became more and more impressed with what we have here. So I thought I share the text of my presentation with you....

“Welcome to Science Day. It is my pleasure today to share with you some of the highlights of the math and science program here at CSB/SJU. First of all, we have a terrific program. We feature small classes sizes (10-36 students) with small labs. All of our classes and labs are taught by professors, not teaching assistants. We have a hands-on philosophy to science.

“Our facilities are outstanding. We have three science buildings – two at St. John’s and one at St. Ben’s. At St. John’s we have a new (Aug 1998) state-of-the-art facility that houses our bench biologists. The other building was renovated during summer 1998 and houses math, computer science, physics, psychology, and the field and organismal biologists. At St. Ben’s, the Ardolf Science Center, which is an award-winning building, is only 8 years old and houses the nutrition and chemistry departments.

“The campuses are set amidst more than 2500 acres of natural land with prairie, wetland, savanna, several lakes (from oligotrophic to eutrophic), conifers, a maple sugar bush, apiary and deciduous forests. Further, we have excellent collections of rocks and fossils, vertebrates, invertebrates, and the largest private college herbarium in the state.

“There are many research opportunities for our students. In addition to projects in the classroom, students can work on independent projects with a faculty member during the regular semester or summer. Every summer there are at least a dozen students doing research and receiving a stipend and room and board. The research may lead to an Honors thesis and/or presentation at various state (Minnesota Academy of Science) and national meetings (NCUR). The Math Department even sponsors a research conference that features a key note lecture by a famous mathematician. Faculty are involved in research on cell signaling in diabetes, mutant frogs, and radon. Many have received external grants to support their research.

“We are wanting for little scientific equipment. Our computing facilities are terrific and have been nationally recognized for their excellence. The computer science department has 19 Silicon Graphics computers, the kind used for simulations in *Jurassic Park*. Students have access to equipment including scintillation counter, high pressure liquid chromatograph, gas chromatography-mass spectrometer, transmission and scanning electron microscopes, cell culture facility and walk-in environmental chambers and various lasers.

“Finally, we are most proud of the successes of our graduates who have attended medical school, professional schools (physical therapy, physician’s assistant, occupational therapy, medical technology), and graduate schools. Others have found jobs in industry (pharmaceutical sales, seed companies), and government (pollution control agency).

“Thanks for visiting us and I hope that you have a happy and productive day.”

2. Student News:

My heartfelt thanks to **Jennifer Smith, Jacob Hausauer, Hope Philips, Terra Hudlow, Patty Hunt, Scott Welle, Ryann Hennis, Heidi, Dan Kersten, Jen Nylund, Brad Pilcher, and Andy Dvoracek** for participating in Science Day. We appreciate your willingness to help out.

There are an incredible number of biology major athletes at CSB/SJU. Congratulations to the Blazer runners who finished 10th at the Central Regional Championships. We especially congratulate biology and natural science majors **Connie Gross, Moriya McGovern**, and **Melanie Ziskovsky**. Congratulations also go to biology major volleyball stars **Missy Sherman, Carrie Otis** and **Heidi Anderson** for their excellent season.

3. Faculty News:

Dr, **Philip Chu** gave a presentation and tour about the Natural History Museum on Saturday for the Arboretum.

Many thanks to the following Biology faculty for participating in Science Day - **Michael Reagan, Sister Jeanne Lust, Elizabeth Wurdak, James Poff, Charles Rodell, William Lamberts, Gordon Brown, Philip Chu, David Mitchell, Ron Henry, Manuel Campos, Marcus Webster, and Stephen Saupe.**

Dr. **David Mitchell** organized and hosted last week’s seminar speaker, Dr. Pat Schlievert. Thanks Dave.

4. Curriculum News

Pollination Biology Seminar – the buzz is ..Dr. Poff is leading a great seminar course this spring on pollination biology. Here's a great opportunity to learn more about the "birds and the bees".

5. Biology Club News

None submitted

6. Calendar of Events

Nov 19, 20 Bloodmobile at CSB/SJU.
Nov 24 Seminar: "The Biological Control of Leafy Spurge" - Andrew Dvoracek
Dec 4 Spring Registration ends
Dec 12 GRE Test Date
April 16 Official Dedication of the New Science Building
April 17 MCAT exam

7. Internships/Scholarships/Jobs

**Biology Department Job Page - Don't about this great resource that you can link to it from the biology department home page or go directly to <http://www.users.csbsju.edu/~biology/biojobs.html>.

**Interested in Volunteering after Graduation? The CSB/SJU Career Exploration Series will feature a presentation on November 17, 1998 in Teresa Reception Center, CSB at 7:00 p.m.

The CSB/SJU Pre-Med. Web Page - <http://www.users.csbsju.edu/~premed/>.

NIH Summer Internship Program for Undergraduates now open for Applications

The National Institutes of Health runs a summer internship program for students at the high school, undergraduate, and graduate levels, at its Bethesda laboratories and selected other locations. The various institutes at NIH each offer their own research opportunities. Summaries of their research are posted on the web, along with the names of program coordinators.. For information on the program, visit the NIH website at www.training.nih/student/sip/catalog/index/html.

In addition to conducting research, students also attend lectures and seminars. The program runs for a minimum of eight weeks in the summer. At the end of the program, students are encouraged to participate in the Summer Research Program Poster Day. To qualify for the program, students must be U.S. citizens or permanent residents.

NIH began accepting applications on November 15 for this coming summer. The application deadline is March 1 for most institutes, but early application is encouraged, and some institutes have an earlier deadline. The National Cancer Institute has no deadline. The Deadline for the National Institute of Environmental Health Sciences (program run from Research Triangle Park, N.C.) is February 15.

Flora of Pennsylvania Internship

A one-year internship will begin June 1999, with six hours of graduate credit at the U of PA. Time is to be split between the Botany Departments of the Morris Arboretum and The Academy of Natural Sciences of Philadelphia. As a member of the internship group at the Arboretum, the intern will participate in workshops, seminars, and field trips designed to demonstrate the varied aspects of management and operation of a public arboretum. The appointment includes a stipend plus University of PA benefits package, including medical and dental coverage, two weeks paid vacation, sick leave, and tuition. Requirements: Undergraduate degree in biology, with course work in botany. Send letter of application, college transcript and 3 letters of recommendation by March 30 to: Jan McFarlan, Internship Coordinator, Morris Arboretum of the University of PA, 9414 Meadowbrook Ave., Philadelphia, PA 19118. For more information contact Dr. Rhoads at rhoadsaf@pobox.upenn.edu or Dr. Schuyler at schuyler@acnatsci.org.

Collections Assistant for Lichens - Michigan State University

The Michigan State University, East Lansing, seeks a full-time 2 year Collections Assistant for Lichens. The salary (\$23,566 minimum, depending on experience) will be funded by a National Science Foundation grant for physical and curatorial improvements to lichen collection. The position requires a 4 year college degree in botany or a related field, basic computer literacy, and experience with lichen or plant identification. Strong preference will be given to any applicants with lichenological training, experience in a herbarium setting, and database management skills. We would like to fill the position by January 1999, and applications are being accepted now. Priority will be given to applications received by 12 November 1998. Send applications and refer questions to: Alan Prather, Department of Botany and Plant Biology, 168 Plant Biology, Michigan State University, East Lansing, MI 48824-1312; phone: 517-355-4695, Fax: 517-353-1926, or e-mail: alan@pilot.msu.edu.

The Morris K. Udall Scholarship and Excellence in National Environmental Policy Foundation - The Morris K. Udall Scholarship and Excellence in National Environmental Policy Foundation was authorized by the United States Congress in 1992 to honor Congressman Morris K. Udall and his legacy of public service. For three decades, Congressman Udall served his country with distinction and honor. Congressman Udall has had a lasting impact on this nation's environment, public lands, and natural resources and has instilled in this nation's

youth a love of these resources. Congressman Udall has also championed the rights of Native American's and Alaska Natives and used his leadership in the congress to strengthen tribal self-governance. The creation of this Foundation pays tribute to the leadership, courage, and vision of congressman Udall and established in his name programs to encourage the continued use, enjoyment, and exploration of our nation's rich and bountiful natural resources; to develop resources to properly train Native Americans and Alaska Natives in the areas of health care and tribal public policy; and to develop resources to properly train professionals in environmental public policy.

Under the enabling legislation, the Morris K. Udall Scholarship and Excellence in National Environmental Policy Foundation is authorized to award scholarships to undergraduate students who intend to pursue careers related to the environment and to Native American and Alaska Native undergraduate students who intend to pursue careers in health care and tribal public policy.

The Foundation is supported by a special trust fund in the U.S. Treasury and contributions from the private sector.

Morris K. Udall's career was distinguished by civility, integrity, and consensus. Consistent with these values, the Udall Foundation is committed to educating a new generation of American's to preserve and protect their national heritage by the recruitment and preparation of individuals skilled in effective public policy conflict resolution.

The Udall Scholarship Program encourages outstanding students to pursue careers related to environment public policy and to foster excellence in the field.

Typical majors include environmental engineering, the natural sciences, natural resource management, and the social sciences. It is anticipated that candidates' plans of study will include course work in ethics and public policy and/or public or community service experience in the area of the candidates' career fields.

In awarding scholarships, the Foundation Board of Trustees will consider the student's field of study, career objectives, and the extent to which that individual has the commitment and potential to make a significant contribution to his or her field.

Native Americans and Alaska Natives: A Career Related to Health Care of Tribal Public Policy - The Morris K. Udall Scholarship Program encourages outstanding Native American or Alaska Native students to pursue careers related to health care and tribal public policy and to foster excellence in those fields.

Typical majors or areas of study include Native America public policy, government, pre-law, the social sciences, health care, and health sciences. It is anticipated that candidates' plans of study will include course work in ethics and public policy and/or public or community service experience in the area of the candidates' career fields.

In awarding scholarships, the Foundation Board of Trustees will consider the student's field of study and career objectives and the extent to which that individual has the commitment and potential to make a significant contribution to his or her field.

Guidelines

The Foundation will award approximately 75 scholarships to outstanding students, to be known as Morris K. Udall Scholars, in the spring for use during the next academic year. The awards will be made on the basis of merit to two groups of students:

1. Those who are college sophomores or juniors in the current academic year, have outstanding potential, and intend to pursue careers in environmental public policy; and

2. Native American and Alaska Native students who are college sophomores or juniors in the current academic year, have outstanding potential, and intend to pursue careers in health care or tribal public policy.

Two-year and four-year institutions are eligible to nominate up to three students in each category, for a total of six students per institution. To be considered, a student must be nominated by his or her college or university using the official nomination materials provided to each institution.

Each scholarship covers eligible expenses for tuition, fees, books, and room and board, up to a maximum of \$5,000. Scholarship recipients are eligible for one year of scholarship support. Scholarship monies not used during one academic year are not transferable to the succeeding academic year. Scholars selected during their sophomore year may be renominated during the next year's competition. Junior nominees may not be renominated. Freshmen are not eligible.

For more information about this scholarship please call (3518) or e-mail Professor Ernie Diedrich in the Department of Economics.

ORNITHOLOGICAL/ENVIRONMENTAL INTERN - needed Jan. 11 - May 14 (position may be extended until Sept. 31 depending on funding) to assist with management of the U.S. Breeding Bird Survey, a national avian monitoring program. Gain experience managing a national biological database while learning more about the distribution and population trends of North American

birds. Intern will assist with data entry, data management and other tasks that facilitate the continued operation of the BBS. Applicants must be organized and computer literate. Preference given to applicants with knowledge of North American birds and their distributions, and experience managing large data sets. The position is located on the campus of the USGS Patuxent Wildlife Research Center in Laurel, MD -- midway between Baltimore and DC. 5-day work week (40 hrs). On site lodging available. Stipend of \$50/day will be provided if living on-campus, \$60/day if living off-campus. Off-campus accommodations are responsibility of intern. Travel and/or relocation expenses will not be covered by the BBS office. For more information on the BBS or this position see our web site at: <http://www.mp2-pwrc.usgs.gov/bbs/bbsops.htm>, or contact Keith Pardieck. To apply, send cover letter and resume by 7 Dec. 1998 to Keith Pardieck, USGS Patuxent Wildlife Research Center, 12100 Beech Forest Road, Laurel, MD 20708-4038; email: Keith_Pardieck@usgs.gov; tel: 301-497-5843.

COMPUTER SPECIALIST INTERN - needed Jan. 11 - May 14 to assist with database construction and management of various large-scale biological monitoring data sets. Intern will assist in setting up biological databases for various monitoring programs such as, the Breeding Bird Survey, Colonial Waterbird Monitoring and the Point Count Data Center, and providing various user interfaces as needed. Preference given to applicants with biological background and demonstrable programming skills in one, or more, of the following computer programs: Visual Basic, C/C+, Cold Fusion, JAVA, JAVA Script, or HTML. The position is located on the campus of the USGS Patuxent Wildlife Research Center in Laurel, MD -- midway between Baltimore and DC. 5-day work week (40 hrs). On site lodging available. Stipend of \$50/day will be provided if living on-campus, \$60/day if living off-campus. Off-campus accommodations are responsibility of intern. Travel and/or relocation expenses will not be covered. For more information on the BBS or this position see our web site at: <http://www.mp2-pwrc.usgs.gov/bbs/bbsops.htm>, or contact Keith Pardieck. To apply, send cover letter and resume by 7 Dec. 1998 to Keith Pardieck, USGS Patuxent Wildlife Research Center, 12100 Beech Forest Road, Laurel, MD 20708-4038; email: Keith_Pardieck@usgs.gov; tel: 301-497-5843.

8. Seminars/Lectures/Symposia

Andrew Dvoracek will speak on "The Biological Control Control of Leafy Spurge on November 24, 1998 at 5:00 p.m. For more information contact Dr. Gordon Brown, Biology.

The 13th National Conference on Undergraduate Research (NCUR) will take place April 8 - 10, 1999 at the University of Rochester in Rochester NY. We will send up to 10 CSB/SJU students to this conference.

NCUR '99 will bring together undergraduates involved in scholarly and artistic activities throughout the U.S., representing a range of disciplines including

creative arts, mathematics, business, social science, humanities, physical and life sciences, and engineering, among others. This conference attracts over 2,000 students and faculty from over 400 colleges and universities, and is a unique environment for the celebration of student achievement. Presentations in the past have included theatrical productions, dance, posters and talks about scientific research, films, and comedy routines.

To compete for CSB/SJU funding for their attendance at NCUR, students must first register their intentions by emailing Dr. Marcus Webster, CSB/SJU NCUR Advisor (MWebster@csbsju.edu) by **November 25**.

9. Miscellaneous

The Central Minnesota Audubon Society meets the third Wednesday of the month at the Heritage Nature Center in St. Cloud (opposite Cub Foods). For more information, contact Dr. Saupe or check out the society's web site at <http://www.cloudnet.com/~audubon>

Department Obtains New Electrophoresis Unit – by Dr. Michael Reagan

The agarose gel electrophoresis unit is used in the Molecular Biology, Biochemistry, and Concepts of Biology (introductory) classes. The top of the unit comes off and hot, liquid agarose is poured in the raised, flat part of the unit. The gel is allowed to cool until the agarose is similar to the consistency of jello. The gel is submerged in liquid buffer and purified DNA is loaded directly into the gel. The top is replaced and an electric field is applied to the gel in the presence of the buffer. The DNA fragments (which are negatively charged) move through the gel in the direction of the positive electrode, but DNA fragments move through the gel at different rates depending on size. When the gel is stained with a dye and UV light is shined on it, the dye which is bound to DNA is a fluorescent orange color.

Siberian fires declared global disaster

Forest fires burning out of control in Russia have affected an area equivalent to the size of Switzerland and have been called an international disaster by the United Nations. The Siberian inferno has caused the nation, already in an economic crisis, to lose prime timber resources and has adversely affected unique habitat for endangered species such as the Amur Tiger. [Full Story <<http://www.enn.com/news/enn-stories/1998/10/102698/rusfire.asp>>](http://www.enn.com/news/enn-stories/1998/10/102698/rusfire.asp)

There is a guide to grad school on the Bio home page for those interested in ecology, systematics, etc. Contact Gordie Brown for specific where abouts.

Didjknow...GASOLINE IS STILL INEXPLICABLY CHEAPER THAN MILK

AUSTIN, TX--The University of Texas released a report Monday stating that, for some inexplicable reason, gasoline, a steadily depleting, non-renewable fossil

fuel buried far beneath the earth's surface, is still far less expensive than the milk of a cow. Milk, a plentiful substance which is not made of dinosaur remains and requires no multi-million-dollar machinery to draw it from deep within the earth's core, costs approximately \$2.45 a gallon, compared to \$1.30 for a gallon of gas. "This is puzzling," University of Texas agriculture-school professor Herbert Roth said. "It's almost as if someone is trying to get people to buy more gas."

Greenpeace cleans up toxic waste

Greenpeace activists cleaned up toxic waste from a chemical manufacturer in Homebush Bay, Sydney, Australia, and Thursday as part of a publicity stunt aimed at getting the company to take responsibility for its waste. The chemical company Orica is cleaning up its land because it intends to sell it for a reported \$50 million for a residential development but has made no public commitment to cleanup the bay.

[Full Story <http://www.enn.com/news/enn-stories/1998/10/101998/orica.asp>](http://www.enn.com/news/enn-stories/1998/10/101998/orica.asp)

Mexico acts to protect its burned forests

Mexico President Dr. Ernesto Zedillo has announced plans to protect forests burned in his country this year so they will be able to regrow and not be converted to farmland. Zedillo, participating in the World Wildlife Fund Gift to the Earth program, has identified 85 priority forests in 21 of the 32 Mexican states that cover 188,000 hectares.

[Full Story <http://www.enn.com/news/enn-stories/1998/10/101998/mexfires14.asp>](http://www.enn.com/news/enn-stories/1998/10/101998/mexfires14.asp)

10. Joke of the week: *(a new section - submissions are welcome!)*

A mushroom walks into a bar and asks the bartender for a beer.

The bartender looks at the mushroom and says we don't serve your kind here.

The mushroom gets upset and leaves.

Ten minutes later the mushroom returns; this time he is wearing a trench coat, dark glasses and a wig. The bartender, being so bright that his mom calls him son, sees through this and tells the mushroom that they don't serve his kind.

The mushroom replies "but I'm a fun guy!" (fungi)

(another real side-slapper submitted by Josh Barnd)

11. Frequently Asked Questions:

For more information, contact:

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Chair & Professor

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