Biology Department Newsletter

Volume 10 Number 1

September 14, 2006

Letter from the Editor

Welcome Back! The purpose of the biology department newsletter is to keep students and others informed about biology-related activities on campus and in the area. We hope that you enjoy the first issue and we welcome contributions. We intended to issue the newsletter at least every other cycle.

This newsletter is being sent to all biology majors, natural science majors, biology minors and any student enrolled in BIOL121. *If you are in one of those groups you can't be removed from our mailing list.* We also send the newsletter to individuals who have requested, at one time or another, to be put on our mailing list. If you are in this latter group, you *can remove yourself* by sending an email message to either <u>Dr. S Saupe</u> or <u>Dr. W Lamberts</u>. Also, please send any contributions to one of us.

Calendar of Events

Sept 12	Biology Dept Seminar: Bug Juice; 4:15 pm, PENGL 373
Sept 12	The Graduate School Process, 7 p.m., Teresa Reception Center
Sept 13	CSB/SJU Greenhouse Plant Sale, Sexton Commons
Sept 14	"Research & Root Beer" - Mary Commons, 4 - 5.30 pm
Sept 14	Constitution Day Activities at CSB/SJU
Sept 16	Citizen's Convention and Gubernatorial Debate, SCSU
Sept 18	Islam and Peace Building – Annual Peace Studies Conference
Sept 19	Health at Work Noon Walk – Plants of the Watab
Sept 19	Careers in Engineering, 7 p.m., Quad 264, SJU
Sept 20	"Crisis in the Marsh" – Julie Olson (MN DNR)
Seot 23	"Woodlands as Resources" Conference – St. John's
Sept 28	A World View of Men's Mental Health – Pellegrene Aud.; 7.00 pm
Oct 2	Biology Seminar: "Using Your Biology Major – Mississippi
	TopSoils – 6.30 PM, PENGL 373
Oct 10	International Careers, 7 p.m., Quad 264, SJU
Oct 10	Health at Work Noon Walk – Fall wildflowers
Oct 14	Buckthorn & Trail Cleanup - Oak Hill School, St. Cloud
Oct 18	Central Minnesota Audubon Meeting, 7.00 pm, topic tba.
Oct 25	Thinking about Volunteering after Graduation? 7 p.m., Alumnae
	Hall, CSB
Nov 15	Health at Work Noon Walk – The Trees of Christmas
Nov 15	A Naturalist in Costa Rica – Cliff Johnson
Jan 19	Central Minnesota Audubon Meeting, 7.00 pm, topic tba
Jan 30	Careers in Science, 7 p.m., Teresa Reception Center, CSB
Feb 16	Central Minnesota Audubon Meeting, 7.00 pm, topic tba
Mar 16	Central Minnesota Audubon Meeting, 7.00 pm, topic tba
Apr 20	Central Minnesota Audubon Society – Frog Symphony, Sarah
	Gainey, 7.00 pm
Apr 20	CSB/SJU Stem Cell Symposium

Student News

Eli Becker Condon (CSB '05) – continues to create nifty, all-natural lamp shades. Check out her web site!

Matt Clark (SJU '98) will soon begin a graduate program in "turf grass breeding" for golf courses, tennis courts, and lawns. Matt says that "hopefully I can lower my handicap while I work towards my degree."

Jason Hoffmann (SJU '07) is spending the semester studying in Australia. He has set up a blog through the Office of International Education. Check it out to learn more about his trip.

Jeff Muntifering (SJU '89) recently published two papers ["Managing the matrix for large carnivores: a novel approach and perspective from cheetah (*Acinonyx jubatus*) habitat suitability modeling." *Animal Conservation* 9: 103-112 (2006) and "South China tiger status and recovery options." Draft paper for IUCN World Commission on Protected Areas 5th Conference on Protected Areas of East Asia, June 2005]. Since his days at St. John's, Jeff has had some amazing experiences "from searching for jaguars in the central American rainforest, to developing novel approaches to secure a future for Namibia's wild places and megafauna, to bringing back the South China tiger to the mountains of China."

Ali Ulwelling (CSB '94) is a "Hot Shot" firefighter and just finished an assignment in western Montana. She will soon begin a position with the Grand Canyon helitack crew. This crew is unique because even when there are not fires on the rim or on the neighboring forest there are usually flights for utility work, search and rescue, medevacs, or other random missions. We have 2 helicopters for most of the season and are able to let one of them leave during the summer when there is work to do in other parts of the country.

Faculty News

Congratulations to Dr. **Bill Lamberts** and his wife Tina on the arrival of their daughter, Clara Louise. Clara was born August 25, at 5:02 pm. We understand that mother and child are recovering well from the ordeal, as is father. Clara weighed in at 6 lbs, 12 oz, and as Dr. Lamberts reports, "is perfect in every respect."

Dr. **Cheryl Knox** and Ms. **Carol Jansky** presented a mini-workshop called "*Nasonia*"



vitripennis: a Drosophila alternative" this summer at the ABLE (Association of Biology Laboratory Educators) conference at Purdue.

Dr. **Manuel Campos** attended the National Association of Advisors in the Health Professions national meeting in Portland, Oregon, June 2006.

Dr. **Michael Reagan** attended the "Mutagenesis" conference in Newport, RI in August and presented work done over the summer with Zach Shaheen and Katie Ward. You can see the work at "Research and Root beer."

Curriculum News

Advisors for Pre-Professional Programs

Pre-Chiropractic Ed McIntee
Pre-Dental David Mitchell

Environmental Studies Ernie Diedrich; William Lamberts

Pre-Forestry Stephen Saupe

Pre-Medicine Manuel Campos, Dave Huber, Jeffrey

Anderson, David Mitchell

Pre-Occupational Therapy Manuel Campos, David Mitchell David Mitchell, Manuel Campos

Pre-Pharmacy Ed McIntee

Pre-Physical Therapy Julie Deyak, Don Fischer

Pre-Physician Assistant Manuel Campos, David Mitchell

Veterinary Medicine Barb May

Forensic Science Michael Reagan
Genetic Counseling Michael Reagan

Finding an Academic Advisor in Biology

How and when do I find and academic advisor? In the spring of a student's first year, the registrar sends each student a card on which they need to obtain the signature of the faculty member whom they would like as their advisor. It is best to select an advisor who has knowledge in the area in which you are interested. Below is a list of the recommended advisors for various areas of interest.

Animal behavior: Dr. Shawn Thomas
Animal physiology: Dr. Marcus Webster
Aquatic ecology: Dr. Bill Lamberts

Botany: Dr. Dave Mitchell, Dr. Mike Reagan
Botany: Dr. Steve Saupe, Dr. Cheryl Knox
Cell Biology: Dr. Mike Reagan, Dr. Elizabeth Wurdak

Conservation biology: Dr. Gordon Brown **Cytology:** Dr. Elizabeth Wurdak

Dental School: Dr. Mani Campos, Dr. Dave Mitchell

Developmental biology: Dr. Jeanne Marie Lust

Ecology: Dr. Gordon Brown, Dr. Jim Poff

Electron microscopy: Dr. Elizabeth Wurdak

Entomology: Dr. Jim Poff

Environmental Studies: Dr. Bill Lamberts; Dr. Gordon Brown

Evolutionary Biology: Dr. Phil Chu, Dr. Chuck Rodell

Field Biology: Dr. Jim Poff
Forensic Science: Dr. Mike Reagan
Forestry: Dr. Steve Saupe
Genetic counseling: Dr. Mike Reagan

Genetics: Dr. Chuck Rodell Geology: Dr. Larry Davis

Graduate school: Any biology prof

Human physiology: Dr. Mani Campos, Dr. Marcus Webster

Histology: Dr. Elizabeth Wurdak

Immunology:Dr. Barb May, Dr. Ellen JensenMedical School:Dr. Mani Campos, Dr. Dave MitchellMicrobiology:Dr. Barb May, Dr. Ellen JensenMolecular biology:Dr. Mike Reagan, Dr. Cheryl Knox

Mycology: Dr. Steve Saupe Occupational therapy: Dr. Mani Campos

Optometry: Dr. Mani Campos, Dr. Dave Mitchell

Organismal biology: Dr. Phil Chu
Paleontology: Dr. Larry Davis
Physician's Assistant: Dr. Mani Campos

Physiology: Dr. Mani Campos, Dr. Marcus Webster

Phytochemistry: Dr. Steve Saupe

Plant Physiology: Dr. Steve Saupe, Dr. Cheryl Knox

Pre-Health Careers: Dr. Mani Campos, Dr. Dave Mitchell, Dr. Mike

Reagan

Veterinary medicine:Dr. Barb MayVirology:Dr. Ellen JensenWildlife management:Dr. Gordon Brown

<u>Biology Club News</u> (for more information, contact one of the officers)

- Holly Breeggemann President
- Sara Murphy Vice President
- Ryan Palacio Secretary
- George Konstantinides Treasurer

Scholarships/Graduate Study

PreMed Web Site

This past summer Dr. David Mitchell and Dr. Mani Campos worked on redoing the <u>CSB/SJU premed web site</u>. You should definitely check out this site if you are interested in the allied health professions.

MCAT Exam

In 2007, the AAMC has implemented several major changes to the MCAT – the test will be computerized, offered 22 times throughout the year, and significantly shortened, among many other changes. For specific information on the computerized MCAT check out the MCAT link on the <u>CSB/SJU Pre-medicine page</u> or contact a premed advisor. An informational session about the computerized MCAT is also being held at 5:00 p.m., on 9/6/06, 140 NSC, SJU. For details see announcement on http://www.csbsju.edu/premed/.

External Scholarship Programs Office

This office was established to help undergraduate students find sources of scholarship funding and to answer questions about scholarship what, whys, and wherefores. As part of that service, you can receive email notices with information on current scholarships. To find out more, check out the ESP Web pages, at http://www.csbsju.edu/scholarships, and find links to scholarship search sites,

descriptions of applications currently available in the ESP office, and other valuable and interesting scholarship information. If you have questions, or would like particular applications, feel free to stop by the office (HAB – 103) or call (5157). Some recently announced scholarships:

- ShopKo Scholarships will award \$1,000 scholarships to 100 students for the 2007 2008 academic year.
- MG James Ursano Scholarship Fund provides financial assistance to Army soldiers and their dependents in time of valid emergence need.
- The Hispanic Scholarship Fund
- The Benjamin A. Gilman International Scholarship
- Environmental Education Scholarship for a student attending a college or university in Minnesota currently enrolled in a degree program or taking coursework that directly supports future career plans as an environmental educator in a formal or non-formal setting.
- <u>Rocky Mountain Elk Foundation Wildlife Leadership Awards</u> to recognize, encourage, and promote leadership among future wildlife management professionals

Jobs/Volunteer

Career Service Programs for 06-07

The CSB/SJU Career offices will offer a variety of programs this academic year that may be of interest to biology students. The following evening sessions are for all students, first year through seniors! They are designed to help you gather information about various careers and career paths as well as network and make connections. Each session begins with a panel-style discussion during which the panel members will discuss their background and involvement with the evening's topic. The session concludes with the opportunity to talk informally with the panel. Refreshments will be served. Mark your calendars.

- The Graduate School Process
 Sept 12, 7 p.m., Teresa Reception Center, CSB
- Careers in Engineering Sept 19, 7 p.m., Quad 264, SJU
- International Careers
 Oct 10, 7 p.m., Quad 264, SJU
- Thinking about Volunteering after Graduation?
 Oct 25, 7 p.m., Alumnae Hall, CSB
- Careers in Science
 Jan 30, 7 p.m., Teresa Reception Center, CSB

The Sophia Sachs Butterfly House Job Opening

There is an immediate opening for a full time Entomologist. Interested parties should apply online through the <u>Missouri Botanical Garden website</u> or contact Dr Mark Deering, Collections Manager and Curator of Butterflies, The Sophia Sachs Butterfly House (636 530-0076) for more details. You may also want to <u>visit their web site</u>.

Internships/Research

Research and Root Beer

The Summer 2006 Undergraduate Research Fellowship Students will present posters about their summer projects in Mary Commons, Thursday Sept. 14th 4:00-5:30 pm. FREE ROOT BEER FLOATS!!! All students, staff, and faculty are invited. This eventy is co-sponsored by the Women's Center and the CSB/SJU Undergraduate Research Program.

Summer Research in DNA Repair Mechanisms

Dr. Michael Reagan reports that his "students, Zach Shaheen and Katie Ward, had a productive summer working in the lab, studying the effect of DNA ethylation on transcription by RNA polymerase II. They showed that damaging DNA by ethylating it causes RNAPII to pause or terminate transcription when it encounters a damaged base. I showed this work at the "Mutagenesis" conference in Newport, RI in August to rave reviews. The next part of the project is to determine if the RNAPII is just paused, or if it really terminates transcription when it encounters this damage. Zach and Katie will be showing their poster on Thursday, Sept 14 at 4-5:30 in Mary Commons and will be giving a short talk on it at some point this semester. I'm sure they'd be happy to talk about their experience in lab, so get in touch with them if you are interested."

Daphnia Research

Dr. Bill Lamberts worked this summer with CSB student Caitlin Walsh and Zhou Haiyun (Melody) of Southwest China University. Their research was part of the first year of the China Summer Research Exchange Program. They did research on predatory infochemicals on *Daphnia* heart rate and swimming behavior.

Erin Saupe - Smithsonian Summer Internship – by Dr. Larry Davis, CSB/SJU Biology

This past summer, Erin Saupe (Senior; Natural Science - Geology) completed a 10-week summer research internship at the Smithsonian's Museum of National History under the direction of Dr. Brian Huber. Erin's research focused on foraminifera (forams), which are Protista that secrete a calcium carbonate test, or shell. Forams live in a variety of salt and fresh water environments from the poles to the equator. Because forams have been present for over 540 million years and some groups evolve relatively quickly, they are used as index fossils for dating sedimentary rock



strata. Erin's project was part of a larger endeavor aimed at restructuring the classification of Cretaceous age planktonic (floating) foraminifera and based on changes in shape through time. During Erin's investigation, two species of Late Cretaceous, planktonic foraminifera, *Heterohelix rajagopalani* and *Gublerina cuvillieri*, were studied from three Deep Sea Drilling Project sites (761B, 762C, 1050C) to determine if *Heterohelix rajagopalani* is the ancestor of *Gublerina cuvillieri*. Shell growth measurements were obtained from high resolution x-ray images to quantitatively measure growth differences between the two species. Scanning Electron Microscope images were used to look at differences in shell ornamentation

and external morphology. Preliminary data analysis suggests that *H. rajagopalani* and *G. cuvillieri's* early ontogeny, or growth history, is similar but that their morphology changes as they grow more chambers. Stable isotope analyses of the two species will be obtained to determine if their relative depth ecologies differ. Erin's project can provide a glimpse into what the climate was like 64 million years ago as well as provide information on current climate change.

Erin presented her research at a Smithsonian Research Symposium and anticipates presenting again at a Geological Society of America meeting in the coming year. The title of Erin's research presentation is "Is *Heterohelix rajagonpalani* the Ancestor of *Gublerina cuvillieri*? A Phylogenic and Taxonomic Study." A virtual poster of Erin's research presentation can be viewed online.

CSB/SJU Fellowship Office

If you'd like information on some of the fellowship opportunities, you can <u>visit our</u> <u>web page</u>.

Seminars/Symposia/Field Trips

An Invitation to Register for an Envision Minnesota "Citizens Convention" & Gubernatorial Debate

On Saturday, September 16, 2006, in Halenbeck Hall at St. Cloud State University from 9AM-1PM there will be the Envision Minnesota convention and governor's debate. The goal is to advance the protection of Minnesota's air, water, land and natural habitat. For more information, visit the web site.



TPT public television will be airing the 9AM governor candidate's discussion, but it should be interesting to be there in person. After the debate, the convention will consider a common vision for both a healthy environment and a vibrant economy. The following Minnesota leaders have been working together to arrange this non partisan event: Wendell R. Anderson, attorney, former Governor and US Senator; Rev. Bob Battle, Pastor, Berean Church of God in Christ in St. Paul; Mary Brainerd, CEO, Health Partners; Mike Ciresi, attorney, RKMC Executive Committee Chair, US Senate candidate 2000; David Foster, United Steelworkers Vice President-retired and Executive Director of the Sierra Club-Steelworkers "Blue-Green" Alliance; Duane Kell, architect, President, AKA; Tim Penny, consultant, HHH Institute Policy Forum Co Director, former State Senator, US Congressman, independent candidate for Governor 2002; Tad Piper, Piper Jaffray & Company; David Saggau, CEO, Great River Energy; and, Vin Weber, Managing Partner, Clark & Weinstock, former US Congressman.

Woodlands as Resources Conference

The St. John's Arboretum is sponsoring an all-day conference on Saturday Sept 23 featuring many presentations about woodland topics including maple syrup, woodshop tour, invasive insects, fall wildflowers and lots more. For more information, visit their web site.

Biology Department Seminars

This semester the Biology Department will once again sponsor a seminar series. Unless otherwise specified, all presentations will be held at 4:15 pm in PENGL 373.

Sept 12	Getting by on Bug Juice: Physiological Ecology of Desert Bird – Dr. Marcus Webster, CSB/SJU Biology
Oct 2	"Using Your Biology Major in Business: Case Study of
	Mississippi Topsoils, Inc." - Brad Matuska, Mississippi
	Topsoils, Inc. Note that this seminar is at 6.30 PM

19th Annual CSB/SJU Peace Studies Conference

"Islam and Peace building" is the theme of this year's annual conference which will be held Monday, September 18th, 2006. The conference is free and open to the public. For more information contact Ron Pagnucco.

A World View of Men's Mental Health

The Center for Men's Leadership & Service in partnership with the Minnesota Fathers & Families Network presents Mr. Preston Garrison, Secretary General/Chief Executive Officer of the World Federation, who will speak on "A World View of Men's Mental Health." This presentation which is part of the 2006 – 2007 Men's Lives Series will be held Thursday, September 28, 2006, in Pellegrene Auditorium, from 7:00 — 8:30 p.m. Free and open to the Public. Join Mr. Preston Garrison as he explores men's mental health in the context of local, national and international communities. As the Secretary General of the World Federation for Mental health, Mr. Garrison will share a particular emphasis on the differences and similarities that exist between mental health issues based on factors of culture and family status. The discussion will bear insight on the diverse populations of men living within Minnesota's borders including immigrants, refugees, rural communities and minority populations. Additionally, Mr. Garrison will highlight the importance of family status, including fatherhood on men's health and well-being. For more information about Mr. Garrison and his work is available online.

Noontime Botany Walks

The St. John's Arboretum and the St. John's Health-at-Work group are sponsoring noon nature walks featuring botanical themes. Dr. SG Saupe, CSB/SJU Biology Department is leading the walks that meet under the Bell Banner at high noon (12:00 pm). Anyone is welcome.

Cont 10	Diants of the Watch	
Sept 19	Plants of the Watab	
Oct 10	Fall wildflowers	
Nov 15	Trees of Christmas	

Central Minnesota Audubon Society

The Central Minnesota Audubon Society meets on the 3rd Wednesday of the month in the Unitarian Fellowship Building in St. Cloud (south of Walmart, <u>click here for directions and more info</u>). Everyone is invited to attend Audubon meetings. If you need a ride to this, or other, Audubon program, contact Dr. S Saupe. CMAS presentations for the remainder of the semester include:

Sept 20	"Crisis in the Marsh" - Julie Olson (MN DNR)
Oct 18	tba
Nov 15	A Naturalist in Costa Rica – Cliff Johnson
Dec	Annual Christmas Bird Count
Jan 19	tba
Feb 16	tba
Mar 16	tba

CSB to host the 2008 National Meeting of CUR

The College of St. Benedict and St. John's will host the June 2008 meeting of the National Council for Undergraduate Research. This is very good news and a wonderful recognition of the quality of our institutional program of undergraduate scholarship and creativity. The event will attract to our campuses some 600 faculty, staff, and administrators for workshops, discussions, and symposia on a wide variety of topics related to collaborative student-faculty scholarship at primarily undergraduate institutions.

<u>Miscellaneous</u>

St. Joseph Farmer's Market

If you like good, locally-grown food, then visit the St. Joe Farmers' Market every Friday from 3 pm until 6:30 at Resurrection Lutheran Church (go north on Hwy 2 near the water tower). The market is at its peak with loads of fresh, local fruits and vegetables as well as unique products such as beeswax candles, honey, maple syrup, agates, and herbal soaps and lotions. Our new cloth market bags are now available for purchase. September 15 from 3 to 6:30 pm will be our annual Harvest Festival! Live music, petting zoos, cooking demo, children's activities, and much more! For more information, contact Dr. S Saupe (x2782).

Buckthorn Busters & Trailblazers Wanted

Volunteers are needed on October 14th from 9:00 to 1:00 or so (or as long as you can help) we will be working on two projects in the Big Woods behind Oak Hill Community School. There are several trails winding through the woods that are in need of widening and cleaning up. We will also be working on removing European Buckthorn, an invasive species of plant, from the woods. The trail crew will be pulling and cutting small brushy plants to widen the trails and clearing fallen branches from the trails. Gloves and loppers and pruners will be very useful tools. The buckthorn crew will be pulling smaller buckthorn plants out of the ground. Anything to big to pull will need to be cut with loppers or chains saws. All of the bigger branches and plants will need to be dragged out of the Big Woods and put on piles to be chipped at a later date by a city crew. Many people will be needed for this activity. If you have a good loppers please bring it along. If you have any questions please contact Dr. S Saupe (x2782; or ssaupe@csbsju.edu).

Arboretum Volunteers Wanted

The St. John's Arboretum is hosting a conference entitled 'Woodlands as Resources' on Saturday, September 23rd. We are in need of people to help make the conference run smoothly. Please see the volunteer duties and times listed below. If you are interested in helping, please contact Sarah Gainey (sgainey@csbsju.edu) as soon as you can.

News from the Melancon Greenhouse

The CSB/SJU Biology Department Greenhouse is located in the SE corner of PENGL and is open daily from about 9 - 4. The greenhouse is holding is annual plant sale on September 13 from 9 – 3.00 at Sexton Commons.

News from the CSB/SJU Bailey Herbarium - by Stephen Saupe

Remember, the herbarium is always open from about 8 - 5 daily and is open to anyone to study, relax and/or use the networked computer.

Web Sites Worth A Visit

New Listings

• <u>Plant Misconceptions</u> – want to correct some errors you might have about plants? Check out this site.

Journals

- Science On-Line
- Nature (online 1997 current)
- news@nature
- Scientific American Archive
- <u>Economic Botany</u> journal online

Careers:

- CSB/SJU Career Resources Office
- CSB/SJU E-Link
- CSB/SJU Financial Aid
- <u>CSB/SJU Student Employment</u>
- SELT
- Science Jobs
- MN DNR Volunteer Activities
- <u>Careers in Botany</u>
- Greenworks

Scholarships/Grants/Fellowships for Graduate Study

- CSB/SJU Career Services Links
- CSB/SJU External Scholarship Program Office HAB 103
- The American Chemical Society Scholars Program
- <u>Graduate School Tips</u> some useful graduate school resources for students.

Internships

- Internship program at the Minnesota Bureau of Criminal Apprehension.
- CSB/SJU Internship Office Home Page (New Internship Opportunities page; Environmental Internships; Science Research; Women's Issues)

Undergraduate Research at CSB/SJU

- CSB/SJU Career Resources Office
- Honors Thesis web site

Summer Research

- CSB/SJU Career Resource Office Links
- <u>University of Minnesota Summer Undergraduate Research</u>

Puzzler of the Week

Joke of the Week (Have you heard any good jokes? Please share them with us.)

Check out this cute video clip about organic produce: http://www.storewars.org. May the **farm** be with you.

Quotes of the Week

- The trouble with the rat race is that even if you win, you're still a rat. Lily Tomlin
- What is morality in any given time or place? It is what the majority then and there happen to like and immorality is what they dislike.
 Alfred North Whitehead
- In matters of principle stand like a rock; in matters of taste swim with the current.

Thomas Jefferson

Frequently Asked Questions

none submitted

For more information, contact one of the editors:

Dr. Stephen G. Saupe or Dr. William Lamberts
Biology Department
College of St. Benedict/St. John's University
Collegeville, MN 56321
(320) 363-2782 (sgs office); (320) 363-3160 (wl office)
(320) 363-3202 (fax)