

# CSB/SJU BIOLOGY DEPARTMENT NEWSLETTER

Volume 2 Number 10  
December 19, 1998

---

## 1. Message from the Chair

Here it is – my final newsletter of the year! I hope that you've enjoyed it and it has been helpful to you.

As I mentioned in my last newsletter, I will be off campus during the spring semester. If you want to contact me, you can email me at [ssaupe@csbsju.edu](mailto:ssaupe@csbsju.edu) or via snail mail at Langerry Holiday Flats; Beach Road; Humewood 6001; South Africa. I plan to send back updates to the department so keep tuned. The acting chair of the department during January will be Dr. Webster and during the spring semester Dr. Henry will serve as acting Chair during January.

I hope that you have a great holiday season and that your January Term is fun and productive. And, don't forget the Herbarium Logo Contest!

## 2. Student News:

**Matt Colaizy** (SJU '98) is enjoying his studies in the UM Dental School and reports he was just awarded a scholarship from the St. Paul District Dental Society. He's taken up banjo for relaxation and has even bowled a 180!

-----  
**Joel Stary** (SJU '97) writes that he is currently working in a clinical laboratory in Minneapolis.

## 3. Faculty News:

none reported

## 4. Curriculum News

Pollination Biology Seminar - with Dr. Poff. Enroll in BIOL347 and learn about the "birds and the bees". 1 credit. time tba.

## 5. Biology Club News

none reported

## 6. Calendar of Events

Jan 15 Due date for applications for the UM Summer Research Program.  
Jan 20 Herbarium Logo Contest Entries due (submit them to Dr. Saupe)  
Jan 26 Truman Scholarship Application deadline  
April 8 NCUR Meeting (see Dr. Webster for details)  
April 16 Official Dedication of the New Science Building  
April 17 MCAT exam

## 7. Internships/Scholarships/Jobs

### **Summer Research Program at the University of Minnesota -**

Every summer several of our students participate in this program sponsored by the University of Minnesota. Fliers are posted outside Dr. Saupe's office. The application deadline is 15 January, 1999 so you'll need to act fast. For more information check out [http://www.cbs.umn.edu/summer\\_research](http://www.cbs.umn.edu/summer_research) or send an email to [summer\\_research@biosci.cbs.umn.edu](mailto:summer_research@biosci.cbs.umn.edu).

-----  
**Summer Research Program in Cell and Molecular Biology** - University of Wisconsin, Madison. Great opportunity to study cells, cancer, plant molecular biology and many other areas. Posters in hallway. For more information contact Dr. Jan Cheetham at [chetham@facstaff.wisc.edu](mailto:chetham@facstaff.wisc.edu). Don't delay, applications are due Feb 8, 1999. Also, check out the web address at: <http://www.wisc.edu/cbe/bioprog/>.

-----  
**\*\*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>.

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

-----  
**Superior Studies** - Superior Studies, a summer program at the Wolf Ridge Environmental Learning Center on Minnesota's North Shore, offers academic courses for college students that count toward Environmental Studies, departmental majors and other requirements for graduation. For more information about Superior Studies, please visit the Superior Studies website at <http://www.stolaf.edu/depts/superiorstudies> and/or Dr. Ernie Diedrich, Economics.

-----  
**Seasonal Nature Conservancy Jobs** – posted outside Dr. Saupe's office. Contact Brian Winter, The Nature Conservancy, RR 2 Box 240, Glyndon, MN 56547 for more information.

-----  
**Summer Naturalist – Michigan State Parks** – info posted outside Dr. Saupe's office. Contact Michigan State Parks Adventure Program Coordinator, Kalamazoo Nature Center, PO Box 127, Kalamazoo, MI 49004-0127 for more information.

### 8. Seminars/Lectures/Symposia

\*\*The 13th National Conference on Undergraduate Research (NCUR) - April 8 to 10, 1999 at the University of Rochester in Rochester NY. For more information contact Dr. Marcus Webster.

### 9. Miscellaneous

**Herbarium Logo Contest** - The CSB/SJU Herbarium is sponsoring a logo design contest. The winner will receive \$30.00 cash! Submit your entries to Dr. Stephen Saupe by January 20, 1999. The herbarium is essentially a reference library of pressed, dried and identified plants. Our herbarium is the largest private college herbarium in the state with over 26,000 specimens. The logo should, obviously, feature some botanical motif, perhaps combining the unique aspects of our central Minnesota botanical heritage, prairie and oaks, as well as the pines planted by the Monastery. Our herbarium features collections by monks, nuns and lay persons and many of the collections date back to the latter half of the 19<sup>th</sup> century. The logo should look good in black and white. For more information, contact Dr. Saupe at x2782 or at home 656-0710. Don't delay and submit your entry. The winner will be contacted by January 23, 1999.

-----  
**Safety Tip for TA's and Others** - **Red biohazard bags** should be placed on the floor near the autoclave, not in the dumpster, even if it does not contact any hazardous material.

### ----- **Notes from the NABT Convention** – S.G. Saupe

In a previous newsletter I mentioned that I attended the recent meeting of the National Association of Biology Teachers. Among the many excellent presentations I attended was one by Dr. Peter Nathanielsz, Cornell University, author of *Life Before Birth*. One particularly interesting aspect of his excellent presentation was his contention that conditions *in vitro* can impact the adult. Specifically, there is excellent evidence that conditions before birth can dictate whether an individual will be pre-disposed to heart disease, diabetes and other diseases.

He cited studies with rats in which a female was given a drug to destroy the pancreas one day after becoming pregnant. The high glucose content in her blood crossed the placental and impacted the fetus, ultimately affecting its pancreas. The offspring of those rats also showed diabetes and this was passed from female to offspring for five generations. Holy Lamarck!

David Barker, an English physician and epidemiologist observed that blood cholesterol levels 50 years after birth were correlated with abdominal girth at birth. If conditions *in vitro* are less than favorable, for example at low oxygen levels such as would be caused by high altitude or smoking, the fetus preferentially shunts blood to critical organs like the brain, adrenal glands and placenta to the detriment of others like the liver and kidneys. The decreased size of the liver likely accounts for the cholesterol level increases in adulthood. One important measure of fetal conditions is the ratio of the head to abdominal circumference. The greater the ratio the more stress the fetus sustained. The fetus shunted blood to brain and this is correlated with higher incidences of heart disease.

A study in Gambia showed that adult survivorship was correlated to whether pregnancy and fetal development occurred during harvest season when food was abundant for mother, or during the dry season. Although early survival was similar for both groups (tragically 35% of infants died by the age of 5), children whose mothers were pregnant during the dry season were pre-disposed to death in their teen years.

Well, what is the take-home-lesson from these studies? Namely that genetics and environment are both important to determine your health. And even if your pre-birth conditions were less than ideal, your life-long health choices can help ameliorate any negative effect of pre-birth conditions.

I also attended a presentation by Dr. Mark Plotkin, a Harvard-trained ethnobotanist. His talk focused on the importance of the rain forest as a source of medicinal plants.

He described a variety of potential drugs from natural sources including: (1) anti-coagulants from bats and leeches; (2) a pain-killer from cone snails that is more effective than morphine without the addictive side-effects; and (3) another pain-killer from frogs that is 80x more potent than morphine. I was surprised to learn that curare, once thought to be a plant product, is derived from the excretions of a toad.

Plotkin also described the story of a western physician who observed a shaman in Surinam who rubbed the excretions from a monkey frog into his hands during a ceremony. When the western physician tried the same thing he lost control of his bodily functions, fell into a deep coma-like sleep and awoke with elevated blood pressure. There is now considerable interest in using product to treat hypertension.

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

Moses, Jesus, and an old, bearded man were out playing golf. Moses stepped up to the tee and drove a long one. It landed in the fairway but rolled directly toward the water. Quickly Moses raised his club, the water parted and it rolled to the other side safe and sound.

Next, Jesus strolls up to the tee and hits a nice long one directly toward the same water. It landed directly in the center of the pond and kind of hovered over the water. Jesus casually walked out on the pond and chipped it up onto the green.

The third guy gets up and sort of randomly whacks the ball. It heads out over the fence and into oncoming traffic on a nearby street. It bounces off a truck and hits a nearby tree. From there it bounces onto the roof of a nearby shack and rolls down into the gutter, down the downspout, out onto the fairway and right toward the aforementioned pond. On the way to the pond, it hits a little stone and bounces out over the water and onto a lily pad where it rested quietly. Suddenly, a very large bullfrog jumped upon the lily pad and snatched the ball into his mouth. Just then, an eagle swooped down and grabbed the frog and flew away. As they passed over the green, the frog squealed with fright and dropped the ball which bounced right into the hole for a beautiful hole in one.

Moses then turned to Jesus and said, "I like playing with your Dad."

**11. Frequently Asked Questions:** **How do I petition into a closed biology class?** *To try and enroll in a class that's closed, you should contact the Chair of the Biology Department, not the faculty member who is teaching the class.*

**For more information, contact:**

Dr. Stephen G. Saupe  
Chair & Professor  
Biology Department  
College of St. Benedict/St. John's University  
Collegeville, MN 56321  
(320) 363-2782; (320) 363-3202 (fax); [ssaupe@csbsju.edu](mailto:ssaupe@csbsju.edu))

**Student Editor:**

Ms. A. Wawra  
Biology Major  
College of St. Benedict  
St. Joseph, MN 56374