

B I O F E E D B A C K

Newsletter of the Biology Department and BioClub of Saint John's University and the College of Saint Benedict

Inside the Department: Concepts Mushrooms

*by Thomas Wetzzel
SJU Junior, Biology Major*

Ask any Concepts T.A. about Concepts lab this semester, and they will probably all agree on one thing: the labs are crowded. To reduce crowding in the day labs, two night labs were added. Still, most labs seem to be near capacity. The reason for these large labs is the largest enrollment of students in Concepts ever. Around 330 students had registered for the course at the beginning of the semester.

In most courses, when the sections are full the class is closed and no more students are allowed in. In the case of Concepts, however, the faculty agreed that this was not a good idea. For students who plan to study biology, Concepts is vital. It is a prerequisite for every upper division biology course offered by CSB/SJU. Therefore, biology students need to take Concepts as soon as possible.

A student wishing to major in biology who is unable to get into Concepts would be set back an entire year in their studies. Those of us who had Concepts as first year students know how much work it is to complete the major requirements in four years. Imagine, though, a second-year student who has just changed his or her major to biology. If such a person were unable to get into Concepts right away, the chances of them getting a Bio major in four years would be small. For this reason, extra labs were added, and the number of lecture sections were also expanded.

If the large number of Concepts students is any indication of the number of biology majors going through the department in the next four years, I'd say that the faculty should have plenty to do.

Biology Club Trip to Lake Pepin

*by Tom Dudley,
Biology Club Co-President
SJU Senior, Biology Major*

On the final weekend of October, the Biology Club took its annual fall camping trip. This year, rather than visiting the woods of northern Minnesota, the Biology Club decided to explore the natural beauty of southeastern Minnesota's Mississippi River Valley. The nine members, thankful for an exceptionally warm late-October weekend, camped at privately owned Hok-si-la campground located approximately two miles north of Lake City, Minnesota.

The camping site was positioned directly on the shores of the Mississippi River, in a section of the river commonly known as Lake Pepin. Historically, Lake Pepin is noted as being the widest section of the entire Mississippi River (spanning nearly three miles across). Because of this width, there exists no relative current for an area of approximately seven miles in length. At the end of Lake Pepin, the distance across the river narrows to meet the Chippewa River which flows into the Mississippi.

The activities which the club had the opportunity to experience included hiking, collecting various shells and stones, and bird watching. A few of the birds that were seen on the trip included Grosbeaks, Cedar Waxwings, and Red-breasted Nuthatches. Club members also had the opportunity to observe the nocturnal activity of Southern flying squirrels which glided from tree to tree over the campsite.

Overall, member reaction to the camping was enthusiastic, with interest already being expressed for the late-winter, early spring camping trip. Preparations for this trip will take place sometime in the early months of Spring



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Semester. Anyone who has any questions or would like to participate in the spring camping trip is welcome and should contact any Biology Club members.

Profile: Kathy Powell, Greenhouse Specialist

*by Chris Dabbling
SJU Junior, Biology Major*

The CSB/SJU Biology Department Greenhouse has a new helper. Kathy Powell was hired from Saint Cloud to work in the greenhouse this year. She graduated from Saint Cloud State University with a Bachelor of Arts degree in biology with an emphasis on botany. Kathy grew up in Albany, MN; and she enjoys reading and writing poetry in addition to working with plants. Kathy takes good care of the plants, gives tours of the greenhouse, and does much of the organization for the plant sales. She likes the Saint John's greenhouse especially because of the "nice selection of orchids" and the "good desert room." Some of Kathy's future goals and projects include propagating the African violets, planning some plant-care clinics, and restarting the greenhouse newsletter, "Green and Growing." Kathy works with Dr. Saupe and can usually be found in the greenhouse from 12:00 to 4:00. Stop by!



Cars of the Near Future
*by Joe Hommes
SJU Sophomore, Biology Major*

Tired of pouring hard-earned dollars into your gas tank? Fear not, lighter cars, fewer emissions, and solar power will help ease the auto stranglehold both financially and environmentally.

By the year 2002, prospective cars will weigh 10% less according to the recently released, U.S. National Research Council report on automotive fuel economy. How can this occur without also reducing the safety of the passengers: Honda is leading the change by engine and other parts modification resulting in a 10 to 20 percent increase in fuel efficiency. General

motors has recently developed an experimental "Ultralite", designed by Burt Rutan (who also designed the airplane Voyager), is composed of durable carbon fiber compounds that do not rust, dent, or scratch.

The first solar-powered, electric-vehicle recharging station in the U.S. was recently constructed at the University of South Florida's College of Engineering in Tampa. The station is capable of recharging 12 vehicles at a time. The solar panels, positioned on the top of the station, can produce up to 20,000 watts (University of South Florida press release, July 30.)

Both economical and electric vehicles produce less hazardous emissions upon our environment than current automobiles.

College Experience

*by Corina Sarsland
CSB 1991 alumnus*

When I was in college, I often fell into the Go-to-class-do-as-little-as-possible-until-test-time-then-cram Syndrome. As a student I seldom thought about how much time a professor invested in a lecture. Until now, that is. This semester I have been student teaching at Rocori High School.

I am glad to write this article because I have realized how much knowledge I gained in college. High School students may find Genetics, DNA, Ecology, Cell Biology, and vocabulary overwhelming and ask "Why do we have to know this?" Even though about 1/2 say they are going to become doctors. After teaching 2 1/2 months, I understand what it is like to teach to comatose brains. But its awesome when the students work hard and struggle with the material to understand it.

I'd like to say thank you to the dedicated professors for teaching us so that we have the opportunity to use our knowledge in productive and positive ways.

A Primer on Aromatherapy

by Beth Sunseri

CSB Senior; Psychology Major

Aromatherapy is the practice of using the essential oils of plants to create a positive effect, either physically or mentally, in a person. Essential oils are the natural oils produced by a variety of plants. These oils are obtained from the plant usually through a distillation process or by pressing the plant. The actual method used depends on the amount of oil in the plant - those with more oil normally are pressed and plants with less oil usually are distilled.

Essential oils have been used for many things throughout the ages. Ancient Egyptians used essential oils to preserve their dead. The ancient Greeks and Romans used the oils as perfumes. Starting in the mid 19th century many oils were used as antiseptics and antibacterials on wounds. These uses of oils have been scientifically demonstrated to be safe and effective.

Recently, two new uses of essential oils have been developed that are controversial. One of these is the smelling of essential oils to try and bring about mood changes or physical changes in a person's body. The other is the ingestion of certain oils to help cure physical ailments.

Although the data are not yet conclusive and disputed by many in the scientific community, one study has shown that the use of essential oils during a massage caused a person to relax. Another experiment suggested that the scent of lavender caused relaxation and jasmine causes a person to feel energized.

Whether or not you agree with the concept of aromatherapy, one thing is certain - the essential oils of plants smell delightful.

Lyrics A Biologist Would Like to Hear

(Adapted from the tune "I feel like I'm dying from mining for gold." - the Cowboy Junkies)

by Jacque Duquette

SJU Senior; Biology Major

We are workers,
Bio workers.
To the lab room we must go.
Hold the hot flask in your hand now,
For plates must be made for tomorrow.

Make the plates, now
Make the plates, now
Sterilize slants while time flies.
Till the shift Prof
Comes to tell you
You've only done 20 of 999.

Can't you feel the Agar dust set in your soul?
Make you feel like a gelatin mold.
Two minutes more and the flask will explode.
And I feel like I'm dying from the Agar to cold.
Yes I feel like I'm dying from the Agar to cold.

The Roving Biology Reporter

by Jason Kuebelbeck

SJU first-year student; Government Major

In each issue of BioFeedback, we will solicit responses to a different question of biological interest. The question for this issue is:

"What do you think of Clinton and Gore's environmental stance?"

"I feel that they will get things done and not just talk about it."

Bryan Milbert

SJU Sophomore; Biology Major

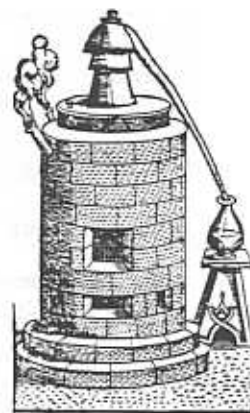
"Bush's environmental plan was fallacy. Clinton and Gore are going to try and undo what Bush has done."

Erin Lane

CSB Senior; Biology Major

"Clinton's new views are visionary. He revels in conservation."

Anonymous



BIOFEEDBACK

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P A G E F O U R

"I believe Clinton will cut down on pollution and still let us keep our jobs."

Jason Kuebelbeck

SJU First Year; Government Major

"The government has allowed big business to profit at the expense of the environment. Clinton and Gore have definite plans for definite changes in the environment."

Dan Nordman

SJU First-year; Biology Major

Electrochemical Treatment of Cancer

by Manu Chakravarthy

SJU Sophomore; Chemistry Major

Interest in cancer and cancer therapy was kindled in me by the impressive regression and cure of cervical cancer achieved in the case of my grandmother after she received a low energy electric treatment through a metal probe resembling the needle used in classical acupuncture. Electrically-energized probes are increasingly being used to stimulate the requisite sensitive spots in acupuncture therapy. Although acupuncturists claim to have cured cancer, authentic scientific accounts of their studies are unavailable. Equally scarce are references in the scientific literature to the direct use of electric currents for the elimination of malignant tumors.

Bjorn Nordenstrom and his associates at the Karolinska Institute, Stockholm, Sweden, have published an extensive account of their fascinating investigations concerning the electro-physiology of normal and pathological tissues. They have shown the existence of an "electrical circulatory system" that may provide the rationale for utilizing electrical therapies against cancer and other diseases.

Clinical trials have confirmed their hypotheses. For example, some non-operable lung cancers were successfully treated by direct electric potential energy. Out of 13 such cases treated, all except one showed regression of the lesions. There were no mortalities or other complications. The energies involved varied from 200 to 600 coulombs at 5-10 volts in most cases and in a few cases at higher voltages. The duration of treatment was a single 3-5 hour sitting. Only in a few cases there was need to repeat the treatment more than once or twice.

The initial clinical results have been encouraging. There is need to confirm and extend the observations of Nordenstrom and his group. Additional studies may also show ways to increase the efficacy of treatment. For example, electrical therapy in combination with suitable cytotoxic drugs, a diet rich in vitamins A, E, C and fiber or other measures may prove to be even more effective.

Biofeedback

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