SUMMER RESEARCH OPPORTUNITIES

Hope College, Holland, MI, is planning to sponsor an undergraduate summer research program if their National Science Foundation grant is approved. For more information contact Dr. C.C. Barney; Biology Dept., Hope College, Holland, MI 49423-3698.

Augustana College, Sioux Falls, SD, invites applications from undergraduates interested in summer research supported by the NSF. The research will involve stable isotopic applications to Great Plains biology, paleoecology, and archaeology. The stipend is $2250 plus partial room. For more information contact Dr. Oscar Will, III, Augustana College, Sioux Falls, SD 57197 (605-336-4712).

The University of Michigan Biological Station will offer research experiences for undergraduates during Summer 1990. Students selected will work closely with a professor on a part of an on-going research project or develop a mini-project of their own. It includes a stipend of $1500 plus room and board. Up to three semester hours of credit could possibly be arranged. For more information contact Dr. Bilan Hazlett, REU, U or M Biological Station, 1111 Natural Science Bldg, Ann Arbor, MI 48109-1048 (313-763-4461) or call 313-764-1462.

WEBSTER AND HENRY SUBMIT GRANT:

Dr.'s M. Webster and R. Henry recently submitted a grant to the Johnson Wax Foundation to obtain funding for physiological recording equipment. Let's hope the granting agency views their proposal as favorably as we do!

PLEASE DON'T WALK ON THE GRASS: A RESPONSE TO DR. PINKY NELSON

by Dr. S.G. Saue
CSB/SJU Biology Dept.

I thoroughly enjoyed Dr. Pinky Nelson's recent lecture sponsored by the CSB Warner Lecture program. Dr. Nelson's presentation was informative, entertaining, thought-provoking and moving. However, I disagree with one of his conclusions - that technology is the answer to our environmental problems.

There is no doubt that technology will help to solve some of our problems. For example, our ever-increasing demands for energy will likely be met by a diversity of technological advances such as more efficient automobiles and perhaps fusion.

But, it is wrong to continue our environmentally destructive ways with the idea that "technology will fix it." The problem with this idea is that it implicitly relieves individuals of taking responsibility for their actions. Everyone will continue to guzzle energy, pollute, etc., with the expectation that no matter what they do, technology will save the day. This might be a tolerable situation if, in fact, technology could solve our problems.

The truth is that there are many problems that technology will not be able to remedy. For example, human population growth is a very significant environmental problem for which there is no technical solution. Technology cannot help us limit our numbers; political, economic, theologic and Individual considerations will be the final arbiters for problems such as these.
Garrett Hardin, in a brilliant essay (Science 162: 1243-1248 (1968)), originally developed the idea of problems with no technical solutions. Further, he related this notion to what he called the "tragedy of the commons". Hardin considers a "commons" to be a resource, such as air and water, that is shared by many. Given freedom, Hardin concludes that the ultimate fate of the commons is destruction. This occurs because individuals gain fully from the use of the commons while only sharing partly in its destruction. Thus, each member, unless completely altruistic, is tragically compelled to use the commons, ultimately destroying it. Hardin correctly concludes that we must limit individual freedom in a commons by "mutual coercion, mutually agreed upon by the majority of people affected".

As an example, a campus lawn is a commons. On the way to class, we might cut a corner and individually benefit by saving a few seconds. Although one set of footprints will not harm the grass, many will. The freedom to use this commons (walking on the grass) results in the destruction of the lawn. But, we share with all others the cost of destruction of this resource. The only way to preserve a resource is to limit freedom: PLEASE DO NOT WALK ON THE GRASS. (This is adapted from an article that will appear in The Independent.)

WILDLIFE SEEKING VOLUNTEERS

The U.S. Fish and Wildlife Service is looking for persons interested in working with wildlife conservation programs, according to Walter Stiegitz, Regional Director on Alaska. The federal wildlife agency has about 190 openings in Alaska for volunteer workers. Assignments are scattered throughout Alaska. The duties may be hard, living conditions primitive.

Applications and inquiries are encouraged at any time, but most selections will be made by May 1, 1990. Interested persons should contact Bill Knauer, Volunteer Coordinator, U.S. Fish and Wildlife Service, 1011 East Tudor Road, Anchorage, Alaska 99503 (907/786-3399).

The State of Alaska also has numerous volunteer opportunities through their Department of Natural Resources, Division of Parks and Outdoor Recreation. For more information about their positions, contact the Alaska State Parks, Volunteer Recruitment, P.O. Box 10-7001, Anchorage, Alaska 99510 (907/762-2655).

BIOLOGY CLUB NEWS
by Katie Coldren
Co-President

Hello Again! Second semester is here and things are starting to roll. The first major project for Bio Club is to help the Earth Day Committee do an environmental audit of the campuses. Our job is to do a solid waste analysis (look through the trash) and determine how much recyclable material is being thrown away. This task was originally scheduled to be done on Feb 16 but due to snow it is postponed until a better day (we'll let you know).

If you want to help give Katie (5562) or Belinda (5666) a call.

Another project is an Earth Day letter with our logo (original) on it to inform friends/relatives of Earth Day and environmental concerns.

We will also have a few speakers this semester who will be announced later.

A camping trip has been proposed but not yet planned. If you have preferences or ideas about a location or time let us know.

You can see it will be a busy semester. We welcome any other ideas you may have. Our next meeting will be at the end of February. Look for signs and be there!

JANUARY TERM 1990: NATURAL HISTORY OF THE SONORAN DESERT
by Anne Judge

The landscape is nothing like anything you have ever seen - you have stepped onto a set of a western epic. Magnificent stone mountains and sage covered hills, saguaro cacti standing tall against the clear blue sky, and valleys and water-carved canyons provide the backdrop. You can almost imagine two cowboys sitting by a fire on a starry night eating beef jerky, but instead of them it's you roaming the Arizona Sonoran Desert, exploring its amazing plant and animal life.

On this trip you will visit a variety of desert scenes, benefit from the cardiovascular workouts you will experience on each hike, share a hotel room with four other people, and see the sights of Phoenix, Scottsdale, Tempe, and Mesa - all with a group of people whose unique habits and personalities will never let you forget January Term 1990.
Dr. E. Wurdak and N. Zaczkowski of the CSB/SJU Biology Department will lead you and 40 other students on a two week journey through the Sonoran Desert. The beautiful Holiday Inn, Tempe, Arizona, will be home base for the group. Exhilarating hikes will take place every weekday, but you are free to do with the one weekend you have in glorious Arizona as you wish.

The daily field trips are at a variety of locations in area parks and national forests, ranging from a few to 70 miles away from the hotel. Once the group reaches the designated trail, everyone will follow Dr. Zaczkowski and Dr. Wurdak in random order at first, but later a single file line of hikers will form. Those more gung-ho will occupy the first few places in line and those more interested in enjoying the walk, or climb, will bring up the rear. Dr. Zaczkowski will stop the group periodically to point out interesting species of plant life. You will indeed be surprised at how many plants you will become familiar with by the last of your field trips into the Sonoran Desert.

The group makes a trip to the Phoenix Zoo to become familiar with the nocturnal animals, as well as others, that you will not see during your daytime hikes. The Desert Botanical Gardens is an optional visit, but is highly recommended. There you can sample prickly pear jelly and mesquite tea and learn more about the plants you have already seen in the desert. The group will also visit the Heard Museum, which presents the different cultures of American Indians who lived in the Sonoran and elsewhere.

This January Term offers you hands-on experience with desert wildlife. Instead of remaining cooped up in a classroom reading about desert terrain and plants, you will be there in the middle of it. Just imagine the breathtaking beauty and the thrill of discovering for yourself that a desert is not barren and lifeless.

SUMMER RESEARCH AT CSB/SJU

Want to spend your summer in Central Minnesota? Want to make some money? Want to do some neat research? Then the Biology Department has just the program for you. This summer the Biology Department will sponsor an opportunity for students to participate in on-going faculty research. Possible projects include rotifer studies with Dr. C. Knox and an ecological survey of the SJU Wetland Restoration Project with Dr. Wurdak and Zaczkowski. Research awards include a stipend and room/board. For more information contact Dr. Henry (x3173; SC 331).

POSITIONS AVAILABLE:


ASTRONAUT NELSON GIVES LECTURE

by LeAnn Ricke
Sophomore, Biology Major

Dr. Pinky Nelson, a former astronaut for 11 years, spoke on Monday, February 2, 1990 at the BAC. The title of his talk was "The Environment from Space." Using slides, Dr. Nelson described the daily routine of an astronaut, what it is like to fly on the shuttle and how the shuttle experience affected his view of the earth and our stewardship of the environment.

Dr. Nelson indicated that most astronauts return to earth with a sense of awe and concern for the environment. The beauty and fragility of the earth become very apparent from space. He described the atmosphere as a delicate blue ribbon wrapped around the surface of the earth. However, this blue ribbon turned hazy brown over the Mexico City area. He was never able to see Mexico City because it is constantly covered by a cloud of pollution. He also described a variety of environmental problems including the destructive effects of fires and erosion. In places where a river empties into the ocean, such as the Mississippi River Delta, silt deposits can be clearly seen from space.

Dr. Nelson has gone on three shuttle flights and spent a total of 17 days in space. He is a former resident of Willmar, MN and is presently an Associate Professor of Astronomy at the Univ. of Washington, Seattle. Dr. Nelson encouraged people to become environmentally aware and to learn about the environment so that we can help solve problems such as the greenhouse effect.

Interested in becoming an astronaut? Dr. Nelson earned a bachelor's degree in physics at Harvey Mudd College and a masters and doctorate in astronomy at the University of Washington. He applied when NASA was asking for applications. For the 20 jobs available, there were from 9,000 - 10,000 applications. So, there's a little competition for the job.
Meadow Creek Project is an educational center nestled in the Ozark mountains near Fox, Arkansas. Its primary focus is to allow college, acuity and students to study and experience a sustainable life style in a world that is rapidly consuming its own non-renewable resources.

I was privileged to attend the January Term session entitled Power, Gender and the Human Prospect. During this three week period, fifteen outstanding speakers highlighted topics centered on the status of women and/or the environmental crisis we are facing. They quickly demonstrated that the two topics are inter-related. Understanding and working for justice in either area will require a change of attitude and an empathy for all who are oppressed. It became obvious that the injustice against race, women, the poor and the earth is part of a single fabric — a single mindset that places the strong, wealthy consumer, the dominant white male society above everyone and everything.

Not only did we listen, read and discuss but we also spent two hours a day helping with the tasks that need to be done to live in harmony with nature. We worked at a forge, skidded logs out of the woods, stacked fire wood, worked in the greenhouse, planted grapes, did dishes, and helped prepare meals. Our heat source was 20 huge solar panels and a wood furnace. We composted garbage, used composting toilets, read by energy efficient lights (compact fluorescent) and marveled at the timed thermal sensors/switches on the outdoor lights. Our environment was smoke free, alcohol free, drug free and without TV or radio. When darkness fell, it was dark except for the stars and the moon; it was quiet except for the coyotes and owls calling across the valley. In the mornings, after a night of rain, we could hear the rushing creek tumbling over the rocks and the air was sweet with damp smells of the good earth.

The January Term experience brought me into touch with the real world. The words I heard and read, the things I did and saw filled me with new ideas and appreciation. I was close to God. No one should ever be deprived of this experience. The efforts needed to insure this experience and this just and peaceful existence for all the earth and all its inhabitants is formidable, but not without hope. Many small grass root organizations are working toward this end and, I believe, we must all become a part of the movement.

If you are interested in learning more about this opportunity and attending Meadowcreek, please see me.

WEBSTER ATTENDS ASC MEETING:

Dr. Marcus Webster recently attended the annual meeting of the American Society of Zoologists. This meeting, which marked the Centennial of the Society, was held in Boston. The meeting attracted 2000 zoologists of varied interests from marine biology to physiology. A workshop on biophysical ecology was of special interest to Dr. Webster.

JUDGEMENT DAY:

The Central Division Regional Science Fair sponsored by the Minnesota Academy of Science was recently held at St. Cloud State University. This event, which included over 400 projects by youths from Central Minnesota, was judged by several faculty and students from the CSBSJU Biology Department. Faculty judges included Dr. 's C. Knox, J. Pott, C. Rodell, S. Sauge and M. Webster. Julie Matzek, Joe Macki, Dan Sitzman, Corina Sarzland, Tim Moschaitz, Laura Swansonl, Michelle Neysen, Joann Pfieffer, Nhat Vo, Julie Meyers, Jeff Hanson, Tom Savard, Rick Cash and Frank Emanuelson were among the students who volunteered to judge.

HBO HONORS EARTH DAY WITH TALE OF DINOSAURS

Home Box Office will observe Earth Day 1990 on April 22, with the animated family special "The Earthday Birthday," the story of baby dinosaurs who join forces and recruit other creatures to save the planet.