



BioSynthesis

Volume 1, Issue 2 (October 2002)

BioSynthesis On-Line: <http://departments.bloomu.edu/biology/biosynthesis.html>

Advisement and Scheduling Time Table

Oct 14: Advisement begins

Oct 28-Nov 15: STINF Scheduling is open. Students may schedule a maximum of 5 three or more credit courses according to the number of scheduling credits they have. See newspaper class schedule for a complete list of assigned dates and times.

Nov 18 –Jan 6: STINF scheduling reopens for schedule changes and scheduling of additional courses.



Look what's inside:

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Planning Ahead...

It is almost Halloween and the fall semester is flying by! The spring semester schedule has been published signaling that scheduling time is right around the corner. Decisions..... decisions. What courses should I take next semester? This issue hopes to assist you in this process by informing you of our spring elective offerings, upcoming deadlines, our new Senior Seminar course, program updates, clinical affiliates, and research opportunities. Of course, a wonderful starting place is to schedule an appointment with your academic advisor to discuss your future plans. Advisor assignments are posted on the bulletin board across from the office of the Department of Biological and Allied Health Sciences (125 Hartline Science Center.) Please visit us--we are happy to help you!

Notes, Notices, & Nonsense

Bio and Allied Health Students, have you noticed that the bulletin board (glass covered) near the elevator has information on scholarships, career opportunities, deadline reminders, and a joke or two? The department's Student Secretaries are trying to keep the information up-to-date. If you have a notice, such as Bio Club or Marine Science Club, you want posted, please bring it to the department office (HSC 125) and give it to the student secretary, at least one week before the notice must be posted. Write your name on the back of the notice and how to contact you (e-mail address and phone number).

Cartoon Contest



Each week a cartoon will be posted (that's the Nonsense part). Students: submit your favorite bio cartoon(s). The "bests" will be posted and at the end of the semester, the "very best" will be chosen. The student submitting the winning cartoon will get a \$20 gift certificate to the University Store. Submit cartoons to the Student Secretary at the department office (HSC 125). Write your name on the back of the cartoon and how to contact you (e-mail address and phone number). The winning cartoon will be judged by an esteemed panel of your faculty. Evaluation will be made on the cartoon's relevancy to biology and its "ha-ha" quotient.

ELECTive SELEction



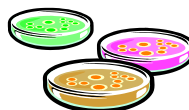
Students who are pursuing the B.S. or B.A. in biology must take a minimum of 12 credits of biology electives. (You can certainly encouraged to take more.) Which electives should you take? There are several possible strategies. One is to take electives targeted toward your particular academic and career interests. For example, a student interested in pre-vet might select comparative vertebrate anatomy and vertebrate zoology while a student interested in working in the pharmaceutical industry may choose molecular biology and microbial physiology. Another approach is to take electives to expand your horizons. Electives can be used to explore areas that you are unfamiliar with and want to learn more about. Take advantage of your bio electives and make your choices wisely. They can help you stand out from the crowd! See your advisor to discuss your options. Below is a brief descriptions of the electives offered Spring Semester 2003. For more information, feel free to contact any of the instructors listed below. Faculty office numbers are listed in the case directly across from the department office (125 Hartline)

Medical Bacteriology (50.342)

Dr. Parsons

Prerequisites: Biology of Microorganisms and Cell Biology

Provides a study of microorganisms capable of causing disease in humans. Emphasizes epidemiology, laboratory diagnosis, principles of pathogenesis, treatment and prevention. The course utilizes medical models, group and individual projects to attain this goal. Three hours of lecture and three hours of discussion/laboratory per week.



Plant Physiology (50.477)

Dr. Williams

Prerequisites: Cell Biology, Organic Chemistry I or Fundamentals of Organic Chemistry

How do plants convert radiant energy into chemical energy? How do plants move water hundreds of feet in the air without a pump? Why and how do plants make nifty drugs aspirin and cardiac glycosides? Why don't plants have kidneys? How do plants "know" when to drop their leaves, and why do those leaves those strange colors in the fall? These and other secrets of how the green world works are exposed in Plant Physiology.



Developmental Biology (50.431)

Dr. Hansen

Prerequisites: Cell Biology, Organic Chemistry I or Fundamentals of Organic Chemistry

Developmental Biology is at the core of all Biology. It deals with the process by which genes in the fertilized egg control cell behavior in the embryo and so determine its pattern, its form and much of its behavior. Lewis Wolpert, 1999



The development of multicellular organisms from a single cell - the fertilized egg- is a brilliant triumph of evolution. During embryonic development, the egg divides to give rise to many millions of cells, which form structures as complex and varied as eyes, arms, the heart, and the brain. In developmental biology we will address a diversity of interrelated questions, such as:

- How do cells arising from division of the fertilized egg become different from each other?
- How do they become organized into structures such as limbs and brain?
- What controls the behavior of individual cells such that highly organized patterns emerge?
- How is the organizing information embedded in the egg and, in particular, the genetic material?

We will examine these processes in lecture and in a hands-on-lab. In lab we will learn novel microscopy techniques, collect gametes from sea urchin and follow fertilization, perform micro-surgery on chicken embryos, and examine developmental changes in gene expression.

Immunology (50.342) or Dendritic Cells with Attitude!

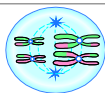
Instructor: To Be Announced

Prerequisites: Cell Biology or Medical Bacteriology; background in organic chemistry is recommended.

This course presents an introduction to structure and function of the human immune system. We will study the response of the immune system to infectious disease. We will also consider its role in blood transfusions, organ transplantations, and cancer. We will learn about diseases of the immune system, such as immunodeficiencies (AIDS), allergies, and autoimmune diseases. Special attention will be given to clinical considerations.



Human Genetics (50-233)



Dr. Hansen

Prerequisites: Concepts in Biology I, or Cells, Genes and Molecules, or Human Biology

Biology has its own periodic table, although it includes not 100 elements but 100,000 of them - the genes of the human genome. Eric Landers, 1998

Human genetics provides one path to understanding who and what we are. We will address human heredity and variation from several perspectives: From the molecular basis of a gene to its expression as a trait; from the single cell to the individual; and from individuals to the human population. We will apply our understanding of genetics to address major issues in human society.

- human disease - from cystic fibrosis to schizophrenia to cancer.
- implications of the human genome project for medicine, biotechnology and genetic engineering.
- human origins and the relatedness of human populations.
- nature versus nurture: Just how much of what we are is encoded in our genes?

Functional Neuroanatomy (50.464)



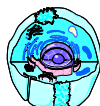
Dr. Shonis

Prerequisites: competency in algebra, Cell Biology, Biology of Aging, Fund. of Organic Chemistry or Organic Chemistry

Functional Neuroanatomy is a new experimental three-credit course being offered this spring to undergraduates and graduate students. The course is 3 hours of lecture and 2 hours of laboratory per week. The focus of the course will be to understand the development of the nervous system, the functions of specific brain areas and the neural pathways involved in allowing animals to respond rapidly to visual, tactile, auditory, and thermal stimuli as well as monitor internal parameters such as blood pressure and blood gases. Laboratory will consist of dissections of preserved brains, study of histological slides of nervous tissue, neurological exams, and the study of three dimensional brain images through the use of computer software. Medical images such as MRIs, PETs and CTs will also be used to gain an appreciation of brain function, physiology and disease.

Students taking the course this spring may then be eligible for a paid internship working with students in a Brain Links Summer Program in Berwick. The internship would involve working collaboratively with teachers from Berwick Area School District to provide instruction to students from 4 age groups, ranging from elementary to high school. Topics will cover several neuroscience modules, as well as visitations to BU and Berwick Hospital. The summer program lasts 2 weeks during the summer of 2003 and again in summer of 2004. A total of four internships will be available. Any questions about the internship should be directed toward Dr. Till or Dr. Shonis.

Animal Cell Physiology (50.472)

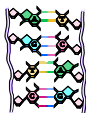


Dr. Melnychuk

Prerequisites: Cell Biology, Organic Chemistry I or Fundamentals of Organic Chemistry

Major organic molecules of animal cells are examined with respect to chemical bonding, important chemical functional groups and general structure/function relationship. The structure of animal cells is then examined especially with respect to enzyme activity during energy production. Maintenance of acid/base balance during cell energetics is emphasized throughout the course. Maintenance of membrane potentials is also related to the function of specific organelles. Homework assignments which can be completed via group interaction are frequent. Quizzes are also offered to prepare for semester examinations.

Molecular Biology (50.333)



Dr. Davis

Prerequisites: Biology of Microorganisms, Cell Biology, and Organic Chemistry I or Fund. of Organic Chemistry

Investigates the practical and theoretical aspects of molecular biology and gives students an opportunity to explore ontogenic and developmental problems from a molecular perspective. Topics include information processing from DNA to proteins, regulation of gene expression, DNA mutability and repair, and genetic engineering. Two hours lecture/discussion, three hours of lab per week.

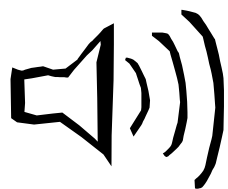
Animal Behavior (50.461)



Dr. Klinger

Prerequisites: Ecology and Genetics

An in-depth introduction to modern behavioral biology, ecology and evolution. Emphasizes current models of animal behavior and theoretical foundations of ethology. The course is project oriented, including both a class project and an independent investigation of animal behavior. Students may incur additional time and cost due to the field trip component at Marine Science Consortium, Wallops Island, Va. Three hours of lecture/2 hours of laboratory per week



Bio Sem is Dead! Long Live Senior Seminar!

The course Biology Seminar (50.380) is no more. Instead, this required course has been replaced by Senior Seminar in Biology (50.481). Please note that this is a ONE CREDIT course (not three credits as stated in the class schedule newspaper.) Many interesting rumors have been circulating about this course. No, students do not have to present complex and incomprehensible information orally to a group of faculty armed with over-ripe fruit. No, students are not put into stocks and pilloried on the quad for committing errors. These events are reserved for Integrated Physiology Laboratory participants-just kidding!

The Senior Seminar in Biology has been designed to allow students to present to their peers currently breaking scientific information from the biological literature. All participants will be able to choose their favorite area of research. Then, all will prepare two presentations. The first one-a short one-will get everyone up to speed by giving all members of the seminar the basic background information to understand the topic area chosen by the presenter. The following week, a selected journal article will be presented to the seminar group using a typical, scientific meeting format. Better yet, the instructor for each section of the course will go first-demonstrating to all participants the techniques and elements for a successful presentation. It will also give faculty a chance to show off a bit! Writing and critical discussion are also part of the Senior Seminar. So you see, it's not so bad. All students are guaranteed to survive, and this course will give everyone a chance to learn new



Practice Makes Perfect: Mock MCAT scheduled for Nov 16

The Bloomsburg University Pre-professional Advisory Committee will offer a Mock MCAT exam to students interested in allopathic, osteopathic, podiatric, or veterinary medicine, dentistry, optometry, and chiropractic. MCAT, a test developed by the Association of Medical Colleges, is the standardized test required for medical school admission. Although dental and optometry schools have their own specialized standard examinations, pre-dental and pre-optometry students are encouraged to take advantage of the opportunity in order to gain exposure to the standardized test experience. The MCAT assesses mastery in biology, general and organic chemistry, physics, scientific problem solving, critical thinking, and writing skills. Scores are provided in four categories: biological science, critical thinking, physical sciences, and writing. By taking a practice MCAT you will become familiar with the length and format of the exam and the depth and breadth of its questions. After receiving your "practice scores" you will get a better understanding of the content areas that require further study. This will help you to be better prepared for the real exam. This is a special opportunity! Most colleges and universities do not provide their students with the opportunity to take an MCAT for free. The cost of the practice exams has been offset by a Special Initiatives Grant from the College of Science and Technology. The practice MCAT is recommended for sophomores, juniors, or seniors. Freshmen should probably wait until they have had more college science courses. Please note that this is a different version of the practice MCAT that was administered last fall semester.

- **WHEN:** Saturday, November 16, 8:00 a.m. to 3:45 pm.
- **WHERE:** 79 Hartline
- **BRING:** A lunch
- **TO RESERVE YOUR SEAT:** E-mail Dr. Berg (mberg@bloomu.edu) or Dr. Hallen (cph@bloomu.edu) by Friday, November 15.
- **ANY QUESTIONS?** Please feel free to contact any member of the Pre-professional Committee. The co-chairs of the committee are Drs. Joseph Ardizzi and Mark Melnychuk, Department of Biological and Allied Health Sciences. Other committee members include Dr. Cindy Surmacz from Biological and Allied Health Sciences and Drs. Christopher Hallen and Michael Berg from Chemistry.

Undergraduate Research in Biology



As you plan your schedule for spring semester, consider the value of obtaining research experience. Research is a wonderful opportunity for you to actually “do science.” You will be introduced firsthand to the essential tools that biologists use to learn about living things. Research teaches you how to ask good questions. From this starting point, you will learn how to formulate hypotheses and make predictions. An essential part of the research process is learning how to design your own experiments to test your predictions. You will then collect and analyze your own data. Next you will have the opportunity to apply those statistical tests you learned in Intro or Basic Stats. Finally research gives you experience in presenting your work in writing and orally. These are all important skills for many career paths and may be the key ingredient to help you gain entrance to a graduate program or professional school or land that all-important first job.

WHAT KIND OF RESEARCH IS BEING DONE AT BU? The faculty in the Department of Biological and Allied Health Sciences have diverse research interests. Topics under investigation include all levels of biological organization ranging from molecular biology to population biology and a wide range of organisms.

HOW DO I FIND A FACULTY MEMBER TO WORK WITH? In many cases, students meet a prof in class and discuss research opportunities. Another way to find out about research opportunities is to simply knock on doors and visit faculty to discuss their research program. Faculty research interests are on the web at <http://departments.bloomu.edu/biology/resint.html>. Many of the faculty who have been featured in this and the September issue of the newsletter are eager to involve students in research.

CAN I GET CREDIT FOR RESEARCH? Yes, students may receive 1-3 credits for research by enrolling in the course 50.390, Undergraduate Research in Biology I (formerly called Independent Study in Biology I). This course may be followed up by Undergraduate Research in Biology II (50.391). Only six credits of undergraduate research may be applied toward biology electives. Junior class standing is a prerequisite. This course acquaints students with the techniques of scientific research, data collection and analysis by engaging in a program of research with the aid of a faculty member. Research culminates in a scholarly paper written by the student that presents findings of the laboratory or field investigation in a form suitable for publication. Please plan ahead if you are interested in taking Undergraduate Research in Biology spring semester. A research proposal must be developed during the previous semester. Proposals for Spring semester must be submitted to the Dean's Office by Nov 27, 2002. See your faculty research mentor for assistance with the appropriate forms and the proposal. Students in the honors program may enroll in Honors Independent Study I and II.

DO I HAVE TO ENROLL IN A COURSE TO GET RESEARCH EXPERIENCE? NO! Simply approach a faculty member to discuss volunteer research opportunities. There is a form for volunteers to complete for insurance purposes.



Student Research Grants

The Commonwealth of University Biologists (CPUB) is an organization of biology faculty from the fourteen universities in the State System of Higher Education. CPUB's mission is to promote research and teaching in biology. To accomplish this goal, CPUB holds annual meetings to highlight student and faculty research, presents awards to outstanding biology students, sponsors workshops and institutes on topics of interest, and provides a forum for the exchange of ideas among biology faculty and students. CPUB is currently funding Student Research Grants for undergraduate and graduate students enrolled at any of the State System universities. The grants carry a maximum award of \$200 which must be used for supplies and equipment. The project must be conducted in collaboration with a faculty member. Applications must include the following: a cover letter; a proposal containing an introduction, materials and methods, references, and budget; a resume; and a supporting letter from a faculty member. Applications must be postmarked by October 31, 2003. Complete application instructions may be found at CPUB's website (<http://www.sru.edu/depts/artsci/cpub/index.htm>) or see Dr. Shonis or your faculty mentor.

ALLIED HEALTH UPDATES



Thomas Jefferson University to offer Doctor of Physical Therapy (DPT)

Thomas Jefferson University in Philadelphia is a BU affiliate that offers a number of allied health programs through their College of Health Professions. Thomas Jefferson has recently announced that beginning in the Fall semester of 2004 they will offer a Doctor of Physical Therapy (DPT) degree. To enter the DPT program, students must have 59 credits of specified prerequisite credits, a minimum cumulative GPA of 3.0, and a bachelor's degree. Students in the Department of Biological and Allied Health Sciences who are interested in this program are encouraged to consider the Bachelor of Arts in Biology major. This degree offers the flexibility to obtain the prerequisites, get an excellent background for PT school, and earn a bachelor's degree in four years. Talk to your academic advisor to discuss various options. Students applying this year for enrollment at Jefferson next fall (fall 2003) will still be in the Master of Science in Physical Therapy program. Jefferson's occupational therapy program has not changed. More information can be obtained at TJU's website:

Allied Health Student Scholarship Competition

Would you like a \$1,000 scholarship? Benjamin Cummings, a publishing company, is awarding five \$1,000 scholarships to allied health students. To be eligible, you must be currently taking Anatomy & Physiology or Microbiology or have done so in the past two years. Applicants must submit a 1-2 page essay which addresses 1) the significance of a scientific discovery that has made an impact on the allied health field and 2) whether some of the innovative applications of biotechnology are ethically justified or not. Essays will be judged according to their creativity, enthusiasm, focus, and thoughtfulness. Application forms may be obtained from Drs. Surmacz or Shonis. Deadline is November 1, 2002.

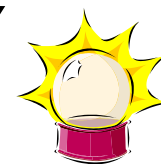
Medical Imaging Students: APPLY for CLINICAL NOW !

Dr. Kipe-Nolt, Allied Health Coordinator, encourages Medical Imaging Students to submit their applications to clinical programs as soon as possible! It would be preferable to have them in by the end of the semester. Applications can be found at the WEBSITES of the clinical programs.

Chemistry Reminder for Medical Technology Students

Sophomores majoring in Medical Technology are reminded to schedule Fundamentals of Organic Chemistry (50.232) for their degree programs (not Organic Chemistry I). If you have any questions, please see your academic advisor.

SOCIAL IMPLICATIONS OF BIOLOGY OFFERED SPRING 2003



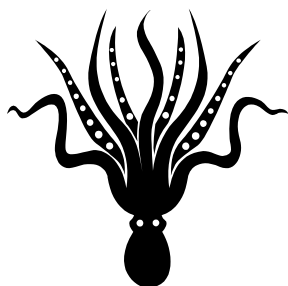
Social Implications of Biology (50.254) is a course which explores the societal implications of current thought in biology. The science of biology, and the technological advances that it generates, affects all aspects of our lives. It influences both our relationships to the natural world and to society as a whole. It affects our legal systems, healthcare, politics, social justice issues, families, the environment, and economics. The aim of this course is not so much learning what to think about particular issues which arise from biology and its applications, but how to learn to think about them. Such an understanding will help prepare you to respond intelligently to future scientific findings and will sharpen your sensitivity to the ethical concerns that confront us as our biological knowledge continues to expand. This course can be used to fulfill the Values, Ethics, and Responsible Decision Making Requirement in the General Education Program. It cannot be counted toward a degree in biology or toward Group C, natural sciences and mathematics. Professor: Dr. Gary Wassmer.

Here is what one of last year's students had to say....

Hey all you biology majors! Well its scheduling time again and your schedule wouldn't be complete without Social Implications of Biology in it. Most of this class doesn't involve lecture, but instead includes discussions and many group activities that allow you to express your views on a number of controversial biological topics such as cloning, gene therapy, environmental issues, and much more. So if you want fun, excitement, and a cool professor, then check out Social Implications of Biology. You can't go wrong!

Brett Siegfried

WHAT's GOING ON?



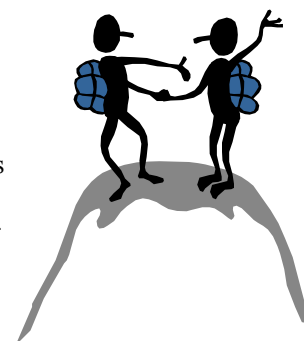
Marine Science Club

The Marine Science Club held its first meeting of the semester on October 2. The following officers were elected: President, **Brad Landis**; Vice President, **Kevin Brace**; Treasurer, **Ben Day**, and Secretary, **Katy Parise**. The club is always looking for new members who have an interest in marine science. One of the activities the club plans is a field trip to the Marine Science Consortium, Wallops Island, Virginia to collect some marine life to care for in the facilities in Hartline. Club meetings are held

every other Thursday at 4:45 PM in Hartline Room 25, on the Red Floor. Our next meeting is a pizza party on October 31. Come on out to the meeting to have pizza and learn about our club!

Biology Club

The Biology Club is meeting next at 5 p.m. on Friday, Nov. 1 at the green floor lobby. Those who wish to join are asked to bring their \$5.00 membership fee. On the agenda is a discussion of "T-shirts and other cool stuff." The Biology Club hiked at Rickett's Glenn in October. Officers of the club include: President, **David Hakim**; Vice President, **Chris Bosco**; Treasurer, **Brett Seigfried**, and Secretary, **Holly Williams**.



Conference for Teachers and Future Teachers



Lycoming College will host workshops for current and future high school biology teachers on Tuesday, Nov 26 from 8:15 to 3 p.m.. The theme of this year's workshop is *Crime Scenes and Biotechnology*. Specific sessions are offered on the Identification of Skeletal Remains, Crime Scene Preservation and Forensics, Fabric Identification, and Immunoassay of Proteins. Registration is \$10 and should be sent to Mark Temons, Muncy High School, 200 West Penn St., Muncy, PA.

Graduate Open House at PCOM

The Philadelphia College of Osteopathic Medicine (PCOM) is holding an Open House to discuss their graduate programs in Biomedical Sciences, Physician Assistant Studies and Forensic Medicine. The Open House is being held on Thursday November 14, 2002 from 5 – 8 p.m. Please RSVP to PCOM's Office of Admissions by November 13, 2002. They can be contacted at 1-800-999-6998 or admissions@pcom.edu. PCOM is located at 4170 City Avenue in Philadelphia, PA .



Annual Career Expo

Over 70 organizations will attend the Annual Career Expo at Kehr Union Multipurpose Rooms on Wednesday afternoon, Nov 6, 2002. Organizations that will be recruiting biology students include the PA Departments of Environmental Protection, Conservation and Natural Resources and Health. There are several hospitals recruiting medical technology and medical imaging majors.

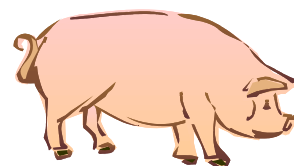
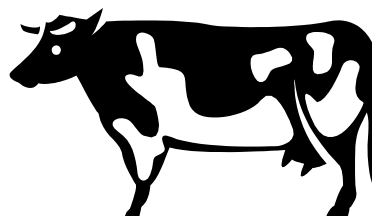
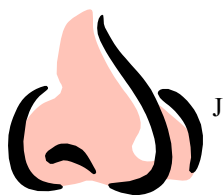


Focus on Faculty Research...

Meet Drs. Kipe-Nolt and Nolt

How Bad

Does it Smell?



Drs. Judith Kipe-Nolt and Barry Nolt received a \$93,000 grant from the Pennsylvania Department of Agriculture to study odor reduction, methane generation, and nutrient characteristics of hog and dairy manures achieved through the process of anaerobic digestion. Dr. Kipe-Nolt and graduate student Dawn Seiders have been working with Orgo Systems, Inc. (a company who installed a prototype anaerobic digester on a hog farm in Pitman) for the past two years. This research was funded by Ben Franklin Technology Partners. The results obtained contributed to Orgo Systems receiving the Governors Award for Environmental Excellence last month. The new project will build on and expand the past research.

Many livestock operations have grown larger and more concentrated to benefit from economies of scale. This growth has forced farmers to face new challenges in the management of manures. These challenges include nutrient concerns, environmental concerns, health concerns, in addition to community relations concerns. Anaerobic digestion could provide the farmer a number of advantages including the following: A substantial reduction in manure-associated odor; energy production from biogas that can offset the cost of the investment; a reduction in emissions of methane and ammonia into the atmosphere; and stabilization of nutrients that can facilitate their management on farm or transport off farm.

Dr. Nolt and Dr. Kipe-Nolt will be looking for students (undergraduate and graduate) who want to participate in this research during the next two years.

Recent BU Biology Graduates Share Advice, Job Leads

“What got me my job was my lab experience, my computer experience, and the lab segments of the classes that required them ...i.e. micro lab, biochem and organic lab. Do not overlook some work study, even non-paid if you can manage. One of the guys mentioned in the interview that my non-paid vet internship and seemed to be impressed even though it was only a few months. I did my homework on their company (their website) before the interview and was able to make small talk and ask some questions even if I already knew some of the answers from their website. I have found that most interviewers love talking about their company and their position. It was a nice ice breaker at a sweaty palm time in my life. Hope this helps “

Sally Ann (Orr) Whitmoyer



Amber Stout (B.S. Biology, Class of 2001) is employed at Centocor, Inc., a Johnson and Johnson company, in their Quality Assurance Department. She writes that her company is planning on expanding and will be hiring about 500 people in the upcoming months. She thought that some of our recent and soon-to-be graduates might be interested in these job opportunities. The company is located in Malvern, PA in the King of Prussia area. Please see Dr. Chamuris if you would like to contact Amber and learn more about this opportunity.

INTRODUCING: THE BU MATHEMATICS & SCIENCE LEARNING CENTER



WHAT IS THE MISSION OF THE MATH AND SCIENCE LEARNING CENTER?

The Bloomsburg University Mathematics and Science Learning Center (MSLC) is a commitment by Bloomsburg University to improve the quality of mathematics and science teaching at the pre-college level. The mission of the MSLC is to serve as a the central meeting place for discussing, initiating and implementing innovation in science and math teaching. To accomplish the goal, the MSLC provides resources to teachers and student teachers for their math and science classes, offers professional development opportunities to K - 12 teachers, extends outreach to area schools, supports innovative curriculum development, maintains a library of educational resources, and offers summer math/science camps to area students.

WHY DID THE MSLC DEVELOP?

Each campus of the State System of Higher Education is participating in the Collaborative for Excellence in Teacher Preparation (CETP), a program funded by the National Science Foundation. The primary goal of this program is to make a difference in math and science education by changing the way that K-12 math and science teachers are prepared. One of the requirements of this grant was to open Math/Science Centers on each campus.

WHERE IS THE MSLC?

The MSLC is located in 12 Ben Franklin (upstairs). The Center consists of a large multi-purpose classroom that is equipped with the latest technology. The Center also houses offices for its director and others who work out of the Center and rooms for its various resources. . The Center is currently undergoing a major renovation scheduled for completion in December.

WHAT RESOURCES ARE AVAILABLE?

The center contains resources for all areas and levels of math and science education. Biology resources include: dissecting microscopes, electrophoresis stations, magnetic stirrers, safety glasses, balances, science kits, and materials for Fast Plant projects. A library is available containing textbooks, lab manuals, and copies of the National and State Standards in Math and Science. Suggestions for resources are welcome!

WHO CAN USE THE RESOURCES?

All materials in the Center are available on loan to K-12 teachers and **BU student teachers**.

HOW CAN I LEARN MORE?

To check out what's at the Center and to learn more about the NSF-CETP project check out this website: <http://orgs.bloomu.edu/msc> The Director of the MSLC is Dr. Emeric Schultz (eschultz@bloomu.edu)

BAHS Faculty and Students Participate in Workshops

On October 11, 2002, BU hosted area public school teachers for workshops in science and math as part of the Collaborative for Excellence in Teacher Preparation (CETP-PA) funded by the National Science Foundation. In the Department of Biological and Allied Health Sciences, Dr. Wood presented the workshop *Owl Pellets - Inferences from Dissection*. and Dr. Surmacz led a session called *Student Directed Investigations: A Wormy Approach*. Attending this professional development day were BU secondary education student teachers **Alex Lobashanksy**, **Joe Bednarek**, and **Larry Pryzblick**.

Fishing Creek Watershed Association Welcomes Volunteers!



Fishing Creek Watershed Association (FCWA) was formed in February 1998 and there are currently over 100 members. General membership meetings are held on the second Monday of every other month. By 2003 we hope to have General Membership Meetings monthly. Most meetings are held at the Columbia County Conservation office on Sawmill Road, Bloomsburg,.

FCWA is involved in many diverse projects. Three years ago FCWA put on a six day Watershed Workshop for Elementary Students and their families. The students had hands on Macro Invertebrate collection and identification, water testing, stream bank and bed assessment, Riparian Buffer Zone walks, and several guest lecturers. FCWA received a \$48,000 grant to design and build two Diversion Wells. The wells are in place and are being monitored and modified. FCWA received a \$127,000 grant to have an assessment of a portion of Fishing Creek. Each June FCWA hosts the Fishing Creek Watershed Festival. This is a combination cultural and environmental event. This includes many guest lectures on varied topics. Two years ago it was featured on Channel 16 Pennsylvania Outdoors.

At the present time, FCWA is involved in a very visible project just north of Lightstreet. The area had a history of very bad erosion. After years of failed attempts to correct the problem the Kochers asked FCWA for help. FCWA has obtained \$77,000 in grant money for the stream and \$80,000 in grant money for the park itself. The Kocher Park is well on its way. If you stop by the site you will see Fluvial Geomorphic Restoration in action. The streambed part of the project has recently been completed, what remains to be completed is the park itself. Much work on this aspect needs to be done. It will include native plantings, trails, handicapped fishing access, and much more.

FCWA and the Boy Scouts are partnered in a \$96,000 grant that was awarded to restore the stream using Fluvial Geomorphology at Camp Lavigne and design an educational program. FCWA Monitoring Committee members monitor over 20 sites on a monthly basis. Some of the tests done are pH, alkalinity, phosphates, and nitrates. There are also several rainfall monitoring sites. Members of FCWA are often called upon to give talks and demonstrations to various groups such as Scouts, other watershed groups, hunting and fishing clubs.

Volunteers are always needed to help with the monitoring and to assist with the various projects. For more information or to volunteer, please contact the Columbia County Conservation Office at 570-784-1310 or President Charles Chapman at 570-925-6972 or Mrs. Diltz, 67 Hartline. FCWA web site www.columbiapa.org/fcwa/

News You Can Use

Need help in Concepts in Biology I?

Mentoring/tutoring for both the lecture and lab of Concepts in Biology I continues to be available in 122 Hartline Science Center for one hour at ~7 p.m. every Tuesday, Wednesday, and Thursday. Mentors include the following upperclassmen: **Jenn Kruk, Larry Pryzblick, Holly Williams, Steve Spencer, and Brett Siegfried.** Hope to see you there!



How to find out who is your academic advisor

Across from the main department office (125 Hartline Science Center) is a bulletin board that lists all students and their academic advisors. A list of faculty office locations appears immediately to the right.

Deadline to withdraw from a class: Tuesday, November 5, 2002

Deadline to submit proposals for Undergraduate Research in Biology to Dean's Office: Nov 27, 2002.

Stay Connected! Two important sources of information are:

- 1) The BU Biology/Allied Health Website <http://departments.bloomu.edu/biology/>
- 2) The bulletin board case near the office (Notes, Notices, and Nonsense)

Secondary Education in Biology Majors Consider joining NABT

The National Association of Biology Teachers (NABT) is an organization of over 9,000 educators committed to providing high quality education in the life sciences to students at all levels. NABT publishes a monthly journal *The American Biology Teacher*. The ABT is a practical journal containing instant updates, reviews of classroom resources, and a *How-To-Do-It* feature that provides lab activities that can be directly incorporated into the classroom. NABT also publishes a number of books tailored to teachers with such titles as *Biotechnology on a Shoe String*, *Investigating Plants*, *The Middle School Idea Book*, and *Biology Labs That Work*. NABT publishes position papers on topics ranging from the teaching of evolution to the use of animals in the classroom. This national organization sponsors an annual convention which features presentations by noted biologists, workshops, demonstration, and exhibits. Dr. Parsons is heading off to the 2002 Annual Convention in Cincinnati, Ohio at the end of October. To learn more about the NABT check out their website at www.NABT.org. Student membership is \$32.

Chemistry Reminder

Secondary Education in Biology majors are reminded to schedule Fundamentals of Organic Chemistry (50.232) for their degree programs (not Organic Chemistry I). If you have any questions, please see your academic advisor.

Can You Identify These Organisms?

Students in Dr. Williams' Monday afternoon Ecology Lab have identified the following organisms in soil samples from Jakey's Hollow. Each organism is less than 1 mm! Can you identify them? Answers on page 12.

A



B



C





THE BU MASTERS PROGRAM

The Department of Biological and Allied Health Sciences offers both a Masters of Science degree (M.S.) and a Master of Education (M.Ed.) in Biology. Our master's program in general biology provides opportunities for course work and research at the supraorganismal, organismal, cellular, and molecular levels of biology. The program prepares students for admission to doctoral programs or professional schools and also enhances the knowledge and experience of high school biology teachers. For more information, contact the graduate program coordinator, Dr. Carl Hansen (123 Hartline).

Spring Graduate Course Offerings

In addition to 400 level swing courses, the following 500 level graduate classes will be offered Spring 2003:

Animal Behavior (50.561)

Developmental Biology (50.531)

Functional Neuroanatomy (50.564)

Biostatistics (53.446), a required course, is also offered spring semester.

OPPORTUNITIES! Read on...

Molecular Biology Workshop for Graduate Students

The Pennsylvania State University is offering their second *Molecular Biology Workshop For State Universities of Pennsylvania* on June 9-20, 2003. This is an intensive 2 week lab workshop focusing on the principles and techniques of molecular biology. The workshop is held at the Biotechnology Institute at the University Park campus, State College, PA. Workshop participants will gain hands-on experience with such techniques as DNA purification, analysis by restriction enzymes and gel electrophoresis, DNA probes, Southern blots, cloning, sequencing, PCR amplification and analysis of gene products by western blots. No previous experience with these procedures is necessary. This workshop is open to graduate students and faculty at state universities in PA. Now for the best part.....The workshop is FREE and includes meals and housing. A gas reimbursement up to \$100 is available. Space is limited at the workshop, so apply early, no later than April 30, 2003. Application forms and additional information may be obtained at the Workshop's Website at <http://www.lsc.psu.edu/techniques/workshop2.html>. Three BU graduate students attended last year, **Soniya Sinha, Jennifer Venditti, and Emily Kramer**. They had a very positive experience and could tell you more about it.

CPUB Research Grants

The Commonwealth of PA University Biologists (CPUB) has research grants of up to \$200 available to cover the cost of supplies or equipment for student research. Graduate students are eligible to apply for these. See article and information on page 5.

Journal Club

What is a journal club? A journal club is an opportunity to get together informally with fellow students and faculty to discuss late-breaking research articles on the cutting edge of biology, while eating munchies! A graduate student or faculty member leads a discussion of a recent paper from the biological literature. Earlier this semester Dr. Hranitz led a discussion on his research on lizard populations and Dr. Till discussed a paper describing a new theory on the evolution of skin color. Graduate student **Justin Reis** is organizing the journal club. Thanks Justin! Journal Club meets every other Friday at 3 p.m. in 145 Hartline. Upcoming journal clubs are schedule for November 1 and 15. Everyone is invited! We hope to see you there!

ANSWERS TO SOIL ORGANISM QUIZ: A, springtails; B, pseudoscorpion; C, spider.

Inside Story Headline

This story can fit 150-200 words.

One benefit of using your newsletter as a promotional tool is that you can reuse content from other marketing materials, such as press releases, market studies, and reports.

While your main goal of distributing a newsletter might be to sell your product or service, the key to a successful newsletter is making it useful to your readers.

A great way to add useful content to your newsletter is to develop and write your own articles, or include a calendar of upcoming events or a special offer that promotes a new product.

You can also research articles or find “filler” articles by accessing the World Wide Web. You can write about a variety of topics but try to keep your articles short.

Much of the content you put in your newsletter can also be used for your Web site. Microsoft Publisher offers a simple way to convert your newsletter to a Web publication. So, when you’re finished writing your newsletter, convert it to a Web site and post it.



Caption describing picture or graphic.

Inside Story Headline

This story can fit 100-150 words.

The subject matter that appears in newsletters is virtually endless. You can include stories that focus on current technologies or innovations in your field.

You may also want to note business or economic trends, or make predictions for your customers or clients.

“To catch the reader's attention, place an interesting sentence or quote from the story here.”

If the newsletter is distributed internally, you might comment upon new procedures or improvements to the business. Sales figures or earnings will show how your business is growing.

Some newsletters include a column that is updated every issue, for instance, an advice column, a book review, a letter from the president, or an editorial. You can also profile new employees or top customers or vendors.

Inside Story Headline

This story can fit 75-125 words.

Selecting pictures or graphics is an important part of adding content to your newsletter.

Think about your article and ask yourself if the picture supports or enhances the message you’re trying to convey. Avoid selecting images that appear to be out of context.

Microsoft Publisher includes thousands of clip art images from which you can choose and import into your newsletter. There are also several tools you can use to draw shapes and symbols.

Once you have chosen an image, place it close to the article. Be sure to place the caption of the image near the image.



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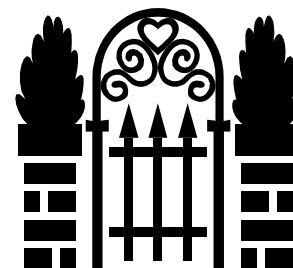
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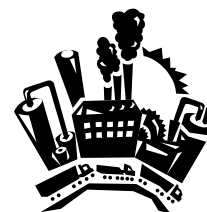
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