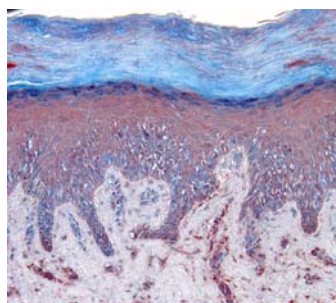


Molecular and Cellular Biology Summer Research Experiences 2008

High school students are invited to participate in summer molecular and cellular biology research experiences at Bloomsburg University of Pennsylvania June 16-July 31 2008. Students will conduct research with one of four different biology faculty and their undergraduate research students in this six-week, on-campus program. Research activities provide opportunities to develop research skills in the life sciences such as designing experiments, laboratory skills, collecting and analyzing data, and interpreting results. Applicants must have: junior or senior class standing in the Fall 2008 academic year, an interest in life science research in molecular and cellular biology, transportation to and from Bloomsburg University, and a summer schedule that allows research to be conducted during university business hours (8 am—4 pm).

Stress Protein Research (Drs. Brubaker, Hranitz, and Surmacz,)

Environmental changes such as global warming, stream acidification, habitat destruction, and pollutants cause habitats, once suitable for organisms, to become stressful. One manner in which cells survive stress is to synthesize stress proteins, molecular chaperones that protect normal protein structure and function when cellular environments deteriorate. Ongoing research projects in our laboratories investigate invertebrate stress proteins, either in worms exposed to pollutants or bee larvae adapted to high temperatures.



Melanoma is a type of cancer that arises from the pigment producing cells of the skin. Although melanoma is not the most common type of skin cancer, approximately one person dies every hour of every day from this disease, making it the most deadly. The significant health threat for melanoma is related to its ability to spread to organ sites outside of the skin (metastasis). Once beyond the skin, melanoma tumor cells tend to become resistant to many conventional chemotherapy or radiation techniques, leaving few options for patients with advanced disease. Ongoing research projects in my laboratory are aimed at investigating the cellular events that promote melanoma metastasis.

Cancer Research (Dr. Hess)

Wildlife Genetics (Dr. Hranitz)

Molecular techniques offer new and exciting ways to study the consequences of animal behavior and social structure in the wild. My genetic research of collared lizards collaborates with a colleague who observes lizard social behavior in nature. Our studies investigate how lizard behavior and morphology impact the number of offspring male lizards sire (reproductive success or evolutionary fitness). Projects in my laboratory genotype lizards by DNA fingerprinting and DNA sequencing and use parentage analysis to identify the sires of hatchling lizards captured in the field.



Application for Summer Research Experiences

Please mail an application, transcript, and contact information (name, phone number, e-mail) for a science teacher reference to Dr. John M. Hranitz, Department of Biological & Allied Health Sciences, Bloomsburg University, Bloomsburg PA 17815. Applications will be reviewed starting May 10, 2008 and researchers will be selected until all positions are filled. Students will be notified by e-mail on May 19th 2008 and will be invited to a summer research orientation held on Tuesday May 27th. A downloadable application and more information are available at <http://facstaff.bloomu.edu/jhranitz>.



Support for Summer Research Experiences was provided by a grant from Cherokee Pharmaceuticals LLC. Bloomsburg University is committed to equal educational and employment opportunities for all persons without regard to race, religion, gender, age, national origin, sexual orientation, disability or veteran status.

