



# BIO NEWS



## NEWSLETTER OF THE CCSU DEPARTMENT OF BIOLOGY

<http://www.biology.ccsu.edu/>

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### **Bio Factoid of the Month:**

**Cleppies.** A human genetic abnormality produces ectrodactyly, or lobster hands. Cleppies, as these people used to be called have only two opposable finger digits instead of the normal five. In the Middle Ages the syndrome was known as the Mark of Cain and it was believed people were born with the deformity because of the sins of their parents. It is now known that ectrodactyly is inherited as an autosomal dominant mutation.

### **NEW COURSE OFFERINGS IN BIOLOGY**

*Are you interested in how math has been used to explain biology?  
Do you sometimes feel that the mathematics used in scientific literature  
is unruly and overwhelming?*

*Want to try to understand some of this math from a biologist's  
perspective?*

*Have you heard of Matlab, a software program often used in modeling  
and computational biology?*

*Are you interested in acquiring a very basic understanding of Matlab  
software?*

If you answered yes to **any** of these questions, consider enrolling in Biology 490/540 (section 04)- Computational Techniques in Biology - this Spring, 2010.

Here are some basic objectives and qualities of the course that may help you make up your mind:

- (1) The course has two main objectives: (a) to instill confidence and familiarity with computational techniques when reviewing modern scientific literature, and (b) to introduce one of the most profoundly capable programs used for computational biology: Matlab.
- (2) There is a considerable emphasis on seminar style discussion and an open learning environment
- (3) This is not a mathematics course(!) ...there will be no derivations or problem solving

For more information, contact Dr. Jake Krans via email or phone: [kransjal@ccsu.edu](mailto:kransjal@ccsu.edu) or 860-832-2678

### **Evolutionary Medicine (BIO 490/540)**

Are you interested in learning how pathogens (disease organisms) evolve? We will study the evolution of diseases such as HIV, swine flu, malaria, and others and discover how we can alter their evolution to make them less lethal to us. This course will not be in a traditional lecture format but will involve readings, discussions, presentations, and group projects. Anyone interested in a health profession or in evolutionary biology should take this course.

For more information, contact Dr. Tiffany Doan at [DoanTiM@ccsu.edu](mailto:DoanTiM@ccsu.edu) or 860-832-2676.

## **November Biology Announcements**

### **Biology Seminars Mondays at 2:00 pm NC 213**

**Dr. Jacob Krans**, CCSU Department of Biology. Using Flies to Learn About Muscle Plasticity. **23 November.**

## Recent Biology Department Accomplishments

### Faculty Publication

Eun Ha Baeg, **Mark E. Jackson**, Hank P. Jedema, and Charles W. Bradberry. Orbitofrontal and Anterior Cingulate Cortex Neurons Selectively Process Cocaine-Associated Environmental Cues in the Rhesus Monkey. Journal of Neuroscience., Sep 2009; 29: 11619 – 11627.

**Dr. Mark Jackson and Ellen Force** (B.S. Biology, May 2009) attended the 2009 Society for Neuroscience meeting in Chicago. Ellen presented a poster on her work “Mapping the snakeunculus: somatosensory-evoked responses in the garter snake cortex.” In addition, Dr Jackson participated in a workshop at the meeting titled “Rhythms of the Neocortex”, where he gave a talk titled “Wavelet analysis of LFP frequency spectrum during an attention task.”

**Orange Wings and Yellow Necks.** Earlier this semester, the Bio 101, Biology of Birds, class was at Stanley Quarter Park across the street from campus and, as is usually the case, saw several dozen Canada Geese there. Among the geese with the usual dark necks were several with bright yellow necks. At the same location last spring, that semester's students in Bio 101 saw among a Ring-billed Gulls with a bright orange wing among those with the usual gray wings. Cancers? Fungi? Ectoparasites? No, research.

These birds had been tagged with plastic markers, with numbers and letters as well as the bright colors, as part of two different studies with similar goals. In both cases state researchers are interested in how birds that have adapted to human-modified landscapes move in those landscapes. Such birds have the potential to affect water quality, and understanding their movements may allow better design of control measures. These studies are examples of "citizen science" in which data collected by non-professional observers are used as part of research projects.

The geese were part of a Connecticut Department of Environmental Protection study of the movements of Canada Geese in the Greater Hartford area; these individuals had been captured and marked right there at Stanley Quarter Park, but others that I and other classes have seen there over the years have been birds originally marked in Farmington and West Hartford. At least one of these birds had also been seen across the Connecticut River in East Hartford.

The gull had been captured and marked about half a year earlier in Worcester, in Central Massachusetts, as part a study by Massachusetts wildlife biologists of gulls that may affect drinking water reservoirs. These gull are marked with tags on the patagium, the flap of skin between the shoulder and wrist joints of a bird. birds from this study have been spotted from Labrador to Georgia, and one gull with a radio transmitter was tracked flying from Massachusetts over the Atlantic Ocean to Florida for the winter (its spring flight north took it over Connecticut).

--David Spector

More information about the studies described above, including contact information for reporting marked birds, can be found at the following web sites:

<http://www.mass.gov/dcr/waterSupply/watershed/study/index.htm>

[http://www.ct.gov/dep/cwp/view.asp?a=2723&q=326148&depNav\\_GID=1655](http://www.ct.gov/dep/cwp/view.asp?a=2723&q=326148&depNav_GID=1655)

S R D H Q O A Q P Y F X R N C  
F B Q I I G B B R N M P U H I  
P S A L O S U K O D R C K O N  
F A O C X R U A T U L I D S E  
P P R L T C I R E E W T C T G  
V R S A A E E V I B L Y K C O  
S Y I P S R R C N V L L J E S  
O F S O A I A I C R A Y G L Y  
J I O A N C T N O I G T J L L  
D M W T I P L E A P W G N X N  
W O C D A M F V T L H G E A P  
O T O B A C C O M O S A I C H  
A X V X D I O X S E K J G M I  
I N F L U E N Z A K L Q X E V  
E B O L A S U O I T C E F N I

## Bio Word Search #24

### Viruses

BACTERIOPHAGE	LYTIC
CAPSID	MADCOV
EBOLA	NUCLEICACID
HANTAVIRUS	PARASITE
HIV	POLIO
HOSTCELL	PRION
INFECTIOUS	PROTEINCOAT
INFLUENZA	TOBACCOMOSAIC
LYSOGENIC	VIROID