

# Biology

## Advising Newsletter

October, 2012



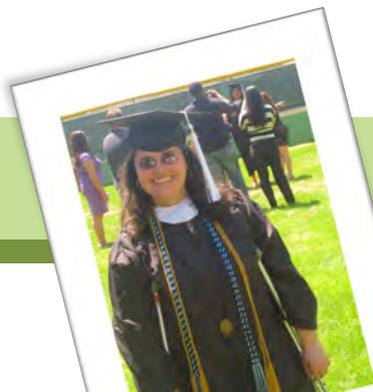
### Mark Your Calendar

- Oct 22 Registration opens for degree students.
- Oct 25 Biology Colloquium: Diana Lizarazo (Brown BioMed Grad Student)
- Oct 31 Video "Cancer Warrior"
- Nov 1 Biology Colloquium: Bill Manning (UMass Amherst, Prof. of Plant Pathology)
- Nov 8, 15, & 29 Senior Seminar Presentations
- Nov 15 & 16 Live webcast of HHMI lecture series "Changing Planet: Past, Present, Future"

### A Message from the Biology

### Department Chair, Dr. Eric Hall

Welcome to all of the new and continuing Biology majors! In last year's newsletter the theme was change and I have to admit that change is creating excitement and confusion. The confusion stems from the new general education program being implemented this year while the excitement is being generated by some improvements in our facilities. The microbiology and ecology laboratories are being renovated and should be in full operation for classes next semester (BIOL 348 and BIOL 321, respectfully)! Please vote "Yes" on question number 3 which requests funds for additional improvements to Fogarty Life Sciences. We graduated over 40 biology majors last year and are looking forward to another inspiring and inspired group of Biology graduates this year. Let's make the excitement last and if you are confused about anything please contact your advisor. Biology Rules!



Interested in doing research and earning honors in Biology?

Get started by checking out the [Honors Program in Biology](#) page on the RIC website. Students interested in starting a research project should contact potential faculty mentors now. Proposals for independent study (research for credit) for Spring are due November 15th. Contact Dr. Spinette, [Dr. Roberts](#), or Dr. Matsumoto for more information on



## Course Information

To help you with your planning, here is the list of biology “electives” (upper-level courses not offered every semester) that are tentatively scheduled for the upcoming year. Please note that 500-level courses are open to graduate students, **and advanced undergraduate students (senior status) with permission from the instructor.**

### *Spring 2013*

BIOL 300	Developmental Biology of Animals <sup>1,2</sup>	Dr. Meedel
BIOL 324	Vertebrate Zoology <sup>1</sup>	Dr. Merson
BIOL/CHEM 420	Biochemistry of Proteins & Nucleic Acids	Dr. Almeida
BIOL/PSYC 445	Behavioral Neuroscience	Dr. Threlkeld
BIOL 531	Mammalian Endocrinology	Dr. Anthony
BIOL 533	Research Methods in Molecular Biology	Dr. Roberts & Spinette

### *Fall 2013*

BIOL 321	Invertebrate Zoology <sup>1</sup>	Dr. Govenar
BIOL 350/450	Topics: Biostatistics	Dr. de Gouvenain
BIOL/CHEM 420	Biochemistry of Proteins & Nucleic Acids	Dr. Avissar
BIOL 450	Topics: Microscopy Workshop	Drs. Roberts, Merson & Govenar
BIOL 526	Molecular Cell Physiology	Dr. Avissar

<sup>1</sup> **Organismal elective** for Biology BA and BS.

<sup>2</sup> New prerequisite: BIOL 111/112, BIOL 221 and completion of, or concurrent enrollment in, BIOL 320.

<sup>3</sup> Starting Fall 2011, changes are in place for courses in biochemistry as follows:

BIOL 410 (CHEM 410) Biochemistry I is now **BIOL 420 (CHEM 420) Biochemistry of Proteins and Nucleic Acids.**  
The prerequisite for BIOL 420 is CHEM 206.

BIOL 411 (CHEM 411) Biochemistry II is now **BIO 421 (CHEM 421) Biochemistry of Lipids and Carbohydrates.**  
The prerequisite for BIO 421 will be CHEM 206.

Biochemistry of Proteins and Nucleic Acids is cross-listed as BIOL 420 and CHEM 420 and Biochemistry of Carbohydrates and Lipids is cross-listed as BIOL 421 and CHEM 421. If you are using either of these courses toward a minor in Chemistry, it is advised that you register as CHEM. If you are using them as Biology electives, it is advised that you register as BIOL.

### **Also of note:**

- Both BIOL 241 (Biology Colloquium 0.5 credits) and BIOL 460 (Senior Seminar, 3 credits) are offered every Fall and Spring semester.
- Contact a faculty member if you are interested in doing a research project (BIOL 49X). Proposals are due April 15 (for Summer or Fall) or November 15 (for Spring).

# Featured Courses

Spring 2013

## **BIOL 300 - Developmental Biology of Animals**

A descriptive and experimental approach is applied to animal ontogeny, with consideration of cell fate determination, differentiation, morphogenesis, and pattern formation. Lecture and laboratory. 4 semester hours. Prerequisites: required - BIOL 111/112, BIOL 221 (Genetics) and completion of or concurrent enrollment in BIOL 320 (Cell and Molecular Biology). Offered by Dr. Thomas Meedel.

## **BIOL 324 - Vertebrate Zoology**

With emphasis on diversity, evolution, and life history we will study adaptations of vertebrates. We will explore local fauna, form, and function through laboratory activities and fieldtrips. Lecture, laboratory, and field trips. 4 semester hours. Prerequisites: required - BIOL 111/112. Offered by Dr. Rebeka Merson.

## **CHEM 420 / BIOL 420 – Biochemistry of Proteins and Nucleic Acids**

The physical and chemical properties and metabolism of proteins and nucleic acids are discussed. Lecture only. 3 semester hours. Prerequisites: required – CHEM 206 and either BIOL 320 or CHEM 310. Credit cannot be received for both CHEM 420 and BIOL 420. Offered by Dr. Karen Almeida.

## **PSYC 445 / BIOL 445 - Behavioral Neuroscience**

Advanced assessment of neural systems and function is presented, with an emphasis on techniques and laboratory approaches. Neuroscience labs include anatomical, physiological, pharmacological, genetic, and behavioral analyses in animal models. Lecture and Laboratory. 4 semester hours. Prerequisites: required – PSYC 110, 221 and 345. Credit cannot be received for both PSYC 445 and BIOL 445. Offered by Dr. Steven Threlkeld.

## **BIOL 531 -Mammalian Endocrinology**

Topics include neuroendocrinology, hypothalamic-pituitary relationships, mechanisms of hormone action, endocrine aspects of reproduction, carbohydrate metabolism, calcium homeostasis, and water/electrolyte balance. Lecture only. 3 semester hours. Prerequisites: required – two 300-level or above biology courses. Offered by Dr. Edythe Anthony.

## **BIOL 533 - Research Methods in Molecular Biology**

This is likely to be different than any you may have taken at RIC thus far. It is designed to allow students to practice the skills that are necessary to take a real experiment from beginning to end using both fundamental techniques learned in previous classes as well as more advanced molecular methods. While the instructors will supply the basic experimental design, students will run many aspects of the project, including preparing reagents, deciding what controls to include, doing basic calculations and dealing with any problems that arise during the experiment. While much of the work in BIO 533 will be hands on, at the culmination of the course students will submit a paper in the form of a primary scientific manuscript describing and discussing the experiments that were performed and the results that were obtained. 4 semester hours. Open to graduate students and undergraduates with senior status. Offered by Drs. Sarah Spinette and Eric Roberts.

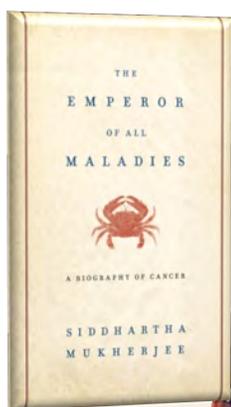


## STEM Quahog Scholarship Program

The STEM Quahog Scholarship Program is intended to provide financial aid to undergraduate students majoring in the STEM disciplines (science, technology, engineering, and mathematics) by providing up to \$5000 in grants per year toward their financial need, as determined by the RIC Office of Financial Aid. In order to qualify, students must, among other things, be US citizens or permanent residents, major in a STEM (Science, Technology, Engineering, or Math) field, and be eligible for financial aid. For further information, contact [Dr. Roland de Gouvenain](#).

## Biology Book Club Events

All are welcome!



**Video screening** of [NOVA: Cancer Warrior](#) presented in conjunction with **The Biology Club** on Wednesday, Oct 31 at 12:30 pm in FLS 209. Snacks provided!

**Book Discussion** of [The Emperor of All Maladies](#) by Siddhartha Mukherjee sometime in November. Watch for flyers with details!

The **RIC Student Chapter of the National Science Teachers Association** presents a live webcast November 15 and 16 starting at 9:30 a.m. each day (room TBA). Click on [HHMI-BioInteractive](#) for lecture details from the Howard Hughes Medical Institute.

### The 2012 Holiday Lectures on Science



Andrew H. Knoll, Ph.D.  
Harvard University



Naomi Oreskes, Ph.D.  
University of California,  
San Diego



Daniel P. Schrag, Ph.D.  
Harvard University

## CHANGING PLANET



Past,

Present,

Future

## Photo Credits

Page 1 banner photo from Dr. de Gouvenain: **Heather Boulanger** and **Trisha Whipple** (Spring 2012) taking a soil sample at the Yale Forest.

Page 1 honors insert and page 2 banner photos of 2012 graduates **Xenia Fernandez**, **Jason Douglas**, **Jennifer Watson** and **Lyndsey Pachon** from Dr. Conklin.

Clam clipart from iClipart and photo here from Microsoft Word stock photographs.

