

# The Reading Frame

Official newsletter of the Department of Biological Sciences,  
York College of Pennsylvania



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## Biology Department Hires New Marine Biologist

The Department of Biological Sciences is proud to welcome its newest faculty member, Jessica Nolan. Professor Nolan received her B.S. degree in Biology from the University of New England (1997), and her Ph.D. from the Scripps Institution of Oceanography in La Jolla, California (2003). She will be continuing our non-majors courses in Marine Biology and Oceanography, as well as establishing upper division Biology courses in Marine Science for our majors. Her research interests involve phytoplankton ecol-



Prof. Jessica Nolan will develop our majors curriculum in Marine Science.



ogy, and she will be continuing this research at York College and the Wallops Island Marine Science Consortium. Professor Nolan is a member of the American Society of Limnology and Oceanography, and the Physiological Society of America.

She has also received numerous awards and fellowships, including a NASA Graduate Student Research Fellowship and a Department of Defense Fellowship.

Professor Nolan can be reached at [jnolan@ycp.edu](mailto:jnolan@ycp.edu).

## High-Tech “Smart” Lab & New Microscopy Area for Life Sciences

The summer of 2003 brought much excitement (and new technology!) to the second floor of the Life Science Building. Specifically, LS211 (the Animal Physiology/Zoology lab) was outfitted with taller benchtops and new chairs. In addition, a new computer system was installed that will provide students with completely wireless access to the campus network and internet directly in the laboratory. Ten new laptop computers were purchased for the lab,

and a remote network connection was mounted from the ceiling. This technology, described as “trend setting” by IT director Bob Robinson, is the first of its kind on the York College campus and will undoubtedly serve as a model for future labs.

In addition to this project, the Department consolidated one office and one prep area to create a new Microscopy Area. The room (LS216 and the former A&P storage area) will house all of the Department’s re-

search microscopes, imaging equipment, and the microplate reader. This is a spacious new facility that will enhance our microscopy research efforts and provide our students with enhanced opportunities in this area.



New Microscopy Area in LS216

*“The important thing is not to stop questioning.”*

*Albert Einstein*

## Three Student Organizations for Majors

The Department of Biological Sciences is very fortunate to have a talented and dynamic group of majors, which have formed three student organizations for biologists.

The **Biology Club** is a long-standing group dedicated to fostering a spirit of fellowship and camaraderie among Biology majors. This year, under the leadership of President Lindsay Venditti, they have continued various fund raising activities, including the now infamous Wienie Wednesday, T-shirt sales, and the Annual Plant Sale, all of which have become classic trademarks of the group. They are also known for their generous philanthropic endeavors. They have contributed funds to

various national and international charities, the York City "\$3.22" fund, and numerous wildlife agencies. They also offer travel stipends for YCP biology majors to attend the annual Pennsylvania Academy of Science meeting. Check out the Biology Club Webpage at <http://goose.ycp.edu/~dricker/bioclubindex.html>

In 2002, the Biology Club was an integral force in establishing a York College chapter of **Beta Beta Beta** (Tri Beta). Tri Beta is a national Biology honors fraternity dedicated to improving the understanding and appreciation of biological study and extending boundaries of human knowledge through scientific research. The York College Theta Epsi-

lon chapter is open to both current and former Biology majors. To learn more about Tri Beta, visit their webpage at <http://www.tri-beta.org/index.html>. To become a Tri Beta member, contact Prof. Brad Rehnberg at [brehnber@ycp.edu](mailto:brehnber@ycp.edu).



In 2001, a group of enthusiastic premedical students joined forces to form the York College **Premedical Society**. This small, but dynamic, group (26 members as of Spring 2003) is committed to offering premedical students various opportunities for gaining valuable experience in the

medical field, and to promoting and developing premedical training initiatives on campus. They have sponsored and organized community health fairs and have offered mock interview sessions and practice MCAT exams. They have also invited various guest speakers to campus to provide insight into medical school training and preparation.

Contact Prof. Ron Kaltreider to learn more about the Pre-medical Society ([rkaltrei@ycp.edu](mailto:rkaltrei@ycp.edu)).

## Seniors Score Big at the Annual Pennsylvania Academy of Science Meeting

The 79th annual meeting of the Pennsylvania Academy of Science (PAS) was held in April, 2002, at the Hershey/Grantville Holiday Inn. Twelve York College biology majors submitted abstracts to the Academy detailing their original Senior Thesis research. Ten of these students were able to attend the meeting and give poster presentations describing their results. The students were as follows:

- **Barscheski, G.**, Kaltreider R. *Effect of creatine treatment on insulin receptor activity.*;
- **Boehmler, J.**, Thompson J. *Cloning and expression of a novel GFP:BOTOX fusion protein from a prokaryotic expression system.*;
- **Capozziello, V.**, Thompson J. *Inducing apoptosis of glioblastoma multiforme cells using BCL-2 specific si-RNA sequence.*;
- **Chronister, A.J.**, Kaltreider, R. *Advanced placement (AP) biology program: A better program for the college-bound student.*;
- **Curilla, S.**, Kaltreider, R. *The role of advanced glycation end products (AGES) on HIF-1A activation and partnering.*;
- **Cramer, S.**, Kleiner K. *Evaluation Of Soil Microbial Communities Between Black Locust (Robinia Pseudoacacia) And Tulip Poplar (Liriodendron Tulipifera) In A Pennsylvania Forest.*;
- **Gouirand, C.**, and B. Smith 2003. *A study of early ovule development of Impatiens Pallida nutt. using the Herr clearing technique.*;
- **Hayes, J.**, Bair C. *Factors affecting E. coli growth in limed versus anaerobically digested sludge.*;
- **Luckenbaugh J.**, Daly M. *Evaluation and performance of selected tender perennials grown in a 2002 plant trial.*;
- **McAnallen, E.**, Thompson J. *Prokaryotic production of human interleukin 13 receptor alpha 2, a cancer associated antigen.*;
- **Mulligan, J.**, Daly M. *Comparison of selected South African daisies with cultivated varieties of commonly grown annual daisies.*;
- **Roller, R.**, Rehnberg, B. *The assessment of timed prenatal lead exposure based on task performance in CD1 mice.*

These and other Biology Senior Thesis projects are listed on our webpage at <http://goose.ycp.edu/~brehnber/SENIORTHESESINBIOL-OGY.htm>.

If your thesis project is not listed on the current webpage, please contact Prof. Brad Rehnberg at [brehnber@ycp.edu](mailto:brehnber@ycp.edu).

## Majors Perform Well on ETS Major Field Test and MCAT Exams

During the Senior Thesis course, one important task for all Biology majors to complete is the Major Field test in Biology. This standardized test, designed and scored by the Educational Testing Service, is one of several outcomes assessment tools used by the Department. After scoring, both individual and group data are forwarded to the Department Chair and are subsequently used to evaluate various aspects of the Biology curriculum.

In most all categories, as well as overall, YCP Biology majors score at or above national averages (Table 1). This clearly reflects the competitive academic aptitude of our students and demonstrates the thorough and comprehensive nature of our Biology curriculum.

In addition to the ETS Major Field Test, many Biology students (typically premedical students) take the Medical College Admissions Test (MCAT). Given each April & August, the MCAT evaluates competence in four

TABLE 1:  
ETS Major Field Test Results for York College Biology Majors (2001-2003) Compared to National Results (2000)

Category	YCP 2003 <sup>1</sup> n=27	YCP 2002 <sup>1</sup> n=14	YCP 2001 <sup>1</sup> n=33	National 2000 <sup>1</sup>
TOTAL	156.6 ± 10.2	158.8 ± 2.9	158.1 ± 2.1	154.1 ± 7.4
Cellular	57.9 ± 11.0	59.1 ± 2.7	58.8 ± 3.0	55.8 ± 6.1
Genetics	59.2 ± 10.6	58.8 ± 3.0	59.7 ± 3.0	55.0 ± 5.8
Organismal	51.6 ± 10.1	45.5 ± 4.4	56.2 ± 3.0	53.2 ± 7.3
Ecology	57.2 ± 4.2	58.4 ± 4.2	57.8 ± 3.0	53.6 ± 7.9

<sup>1</sup> Data ± SEM

<sup>2</sup> Data ± SD

<sup>3</sup> Highest score = T

TABLE 2:  
MCAT Results for York College Biology Majors (2001-2002) Compared to National Results (2000)

Category	YCP Aug '02 <sup>1</sup> n=5	YCP Apr '02 <sup>1</sup> n=7	YCP Aug '01 <sup>1</sup> n=5	YCP Apr '01 <sup>1</sup> n=8	National 2000 <sup>2</sup>
Verbal Reasoning	8.6 ± 0.7	8.1 ± 0.9	8.4 ± 1.3	7.9 ± 1.1	7.9 ± 2.4
Physical Science	6.8 ± 0.6	7.7 ± 1.7	6.0 ± 0.9	7.8 ± 0.7	8.2 ± 2.3
Writing Sample <sup>3</sup>	O	N	N	N	M-Q
Biological Science	7.2 ± 0.8	8.6 ± 0.3	7.2 ± 1.0	8.4 ± 0.9	8.4 ± 2.4

categories (Table 2), including Biological Science. Historically, York College students perform well on the MCAT exam, obtaining competitive scores that ultimately support their application to medical school.

These data clearly reflect the academic excellence of our majors, as well as the successful diversity of our Biology curriculum.

## Biology Students Receive Awards

The Fall 2002 and Spring 2003 Biology Senior Thesis classes yielded an impressive array of both independent research projects and research proposals.

Among them were three original research projects selected by the Biology faculty as deserving of either the Bruce Smith Senior Thesis or the Student Scholars Award. The award winning research projects were as follows:

**Luckenbaugh J., Daly M.**  
*Evaluation and performance*

*of selected tender perennials grown in a 2002 plant trial* (Smith Award);

**Roller, R., Rehnberg, B.** *The assessment of timed prenatal lead exposure based on task performance in CD1 mice* (Smith Award);



Becky Roller



Gary Petruzzelli

and **Petruzzelli, G., Taylor, B.** *Do copper jacketed bullets auto-sterilize*

*when fired?* (Student Scholars Award).

In addition to the senior thesis award winners, several Biology majors were selected by the Biology faculty to receive honors at the May 2003 graduation ceremony.



Erin McAnallen

Erin McAnallen received the Denoncourt Award for Excellence and Service in Biology. Departmental Recognition honors were given

to Jessica Boehmler, Valerie Capozziello, Erin McAnallen, Gary Petruzzelli, and Becky Roller.

Other students who received Biology awards



Lindsay Venditti

were Lindsay Venditti, recipient of the Jeffrey Ziegler Memorial Award and Jessica Dortch, recipient of the York Water Company Award.

Congratulations to these outstanding students!

## Faculty & Staff News

The Department of Biological Sciences is comprised of nine full time faculty members, three laboratory coordinators, one laboratory technician/chemical hygiene officer, and one secretary. Here's a brief run down of what they've been up to this academic year.

### FACULTY

When Prof. Marilyn Daly isn't busy teaching Human Anatomy & Physiology, she enjoys gardening. Her horticultural research on South African plants has become quite renowned, and she is currently writing a book for Timber Press. She will take sabbatical leave during the 2003-4 academic year to work on the book.

Prof. Ron Kaltreider is the new chair of the Preprofessional (aka "Premed") Committee. During the 2002-3 academic year, he was busy with several student research projects and was awarded two undergraduate research grants from PAS. He is also busy with his new daughter, Breanna (see p. 6).

Prof. Karl Kleiner had an exciting and challenging experience teaching Evolutionary Biology this Spring 2003. Reliable sources report that he donned lab coat and gloves to perform several

molecular experiments! His research on forest ecology also continues.

Prof. Carolyn Mathur has just returned from a semester-long sabbatical working at Penn State University. Her project, studying the susceptibility of petroleum reserves to microbial degradation, was supported by a grant from the American Chemical Society and the American Petroleum Institute. She returns to the classroom this Fall to teach Microbiology and is developing a new upper division elective for majors in this field.

Prof. Jessica Nolan is the newest faculty member in the department (see p. 1). She will be teaching our nonmajors Marine Science courses and designing new major electives in this area.

Prof. Brad Rehnberg has been instrumental in establishing the Beta Beta Beta Biological Honors Fraternity at YCP. In addition to such student-centered endeavors, he continues his research on the thermal biology of the fall webworm (*Hyphantria cunea*). His recent publication in this field appeared in the *Journal of Thermal Biology*.

Prof. Debbie Ricker has been

serving as department Chair since June, 2002. She continues her research in the area of developmental biology. She also serves as the Secondary Education/Biology coordinator and, as such, mentors student research projects in science education, and serves as a supervisor for Biology student teachers.

Prof. Bruce Smith is preparing to teach his upper division Biology elective, Plant Morphology, this Fall 2003. He has recently designed a new upper division course entitled Plant Systematics which will be offered in the future. Prof. Smith was instrumental in designing our new microscopy area (see p. 1).

Prof. Jeff Thompson has begun to develop a very dynamic research program investigating potential cancer therapies. He received 3 undergraduate research grants from PAS and is continuing his work with botulinum toxin (aka "botox"). He has also been awarded a patent for mutant human interleukin 13 molecules.

### LAB COORDINATORS

Prof. Tony Botyrius attended the annual Association of Biology Lab Educators (ABLE) meeting in Las Vegas. He has also begun supervising Biology

student teachers and serving as an academic advisor for secondary education/biology majors. He recently completed the 10th edition of the Biology I Lab Manual.

As the Nuclear Medicine Coordinator, Prof. Elizabeth Hodgson has made significant progress in promoting this aspect of our Biology program.

Prof. Barb Taylor has recently designed a new non-majors Biology course entitled "Microbes: Unseen Life on Earth".

### LAB TECHNICIAN

Sally Hoh was hired in 2002 and, since then, has worked hard to formalize our Chemical Hygiene Plan. She is also the department's central purchasing agent and she maintains current inventories of all supplies, equipment, and chemicals within the department. She has supervised numerous renovation projects this summer, including those mentioned on Page 1.

### SECRETARY

After her summer off, Linda Walker returns to the Department this Fall not only with a grandson (Dakota Skye) but also a new granddaughter (Sierra Brooke). Both grandchildren belong to her daughter, Billie. Linda also has a new daughter-in-law (Ashley).

## What have YOU been up to????

Ever wonder what happened to your former YCP Biology buddies?? Let us help you reconnect with your colleagues & friends.

Complete the following form & return it to us. We are establishing a database of YCP biology alumni and this information will be used in future newsletters.

### YCP BIOLOGY ALUMNI INFORMATION

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

EMAIL: \_\_\_\_\_ YEAR GRADUATED: \_\_\_\_\_

POST YCP EDUCATION/TRAINING (Include dates): \_\_\_\_\_

CURRENT EMPLOYER & POSITION: \_\_\_\_\_

Detach & mail to: Debbie Ricker, Dept. of Biology, YCP, York, PA 17405 or email dricker@ycp.edu

## ALLIED HEALTH PROGRAMS IN BIOLOGY

### Nuclear Medicine Technology

As we progress into the new millennium, the Nuclear Medicine Technology (NMT) program at York College continues to prosper! Our students continue to perform well on the board exams and NMT graduates are getting the best jobs, which garner salaries at the higher end of the pay scale. In other words, you are all doing GREAT and continue to make our program shine! For that, we all thank you.

The York College NMT program is continuing its relationship with Lancaster General College of Nursing and Health Sciences (formerly LIHE), with Penni Aten at the helm.

All former and current NMT students are cordially invited to attend an Alumni BBQ Picnic at the home of Elizabeth Hodgson, NMT Coordinator, on Friday, Sept. 19 at 6:00pm. We hope that this outing becomes an

annual tradition among NMT students!

To RSVP for the NMT Alumni Picnic, to get directions, or for more information about the NMT program, please email [ehodgson@ycp.edu](mailto:ehodgson@ycp.edu).

**Nuclear Med. Tech.**  
**PROGRAM STATS**

Total Enrollment:	17
New students Fall '03:	4

**Program Coordinator:**  
Elizabeth Hodgson  
[ehodgson@ycp.edu](mailto:ehodgson@ycp.edu)

### Respiratory Care

Respiratory Care is a health career that focuses on cardiopulmonary life support. Practitioners directly care for patients, carrying out physicians orders. Graduates of Respiratory Care programs are in great demand. Some employers are offering sign-on bonus and/or tuition reimbursement for new graduates.

Graduates of YCP have 100% job placement. Employers are very pleased with York's gradu-

ates when assessed by employer surveys six months following graduation. Graduates of YCP's respiratory program have done extremely well on their certification exams with 100% pass rate compared to national pass rates of 67%. Salaries have been on the increase for Respiratory Therapists with starting salaries averaging between \$38,000 to \$40,000 for Registered Therapists.

For those persons who want a

health care profession with direct patient contact, York College offers an excellent program in Respiratory Care at both the Associate and Baccalaureate levels.

For more information about the Respiratory Care Program at York College, contact [msimmons@wellspan.org](mailto:msimmons@wellspan.org).

**Respiratory Care**  
**PROGRAM STATS**

Total Enrollment:	18
New students Fall '03:	6

**Program Coordinator:**  
Mark Simmons  
[msimmons@wellspan.org](mailto:msimmons@wellspan.org)

### Healthcare Coding

The newest addition to our Allied Health offerings at York College, Healthcare Coding (HCC) is a specialty that prepares students for careers wherein diagnostic and procedural data are coded for reimbursement purposes.

Currently, there are approximately 48 students with Healthcare Coding declared as their major. This is up from 26 stu-

dents in June 2002. Approximately, half of these students are evening students and many are enrolled part-time.

All students that completed the HCC program through December 2002 and were seeking coding jobs have been employed as Coders or are in coding related positions in a variety of healthcare facilities.

Furthermore, students that have taken the national certification exam report a 100% pass rate to become Certified Coding Specialists (CCS).

For more information about the Healthcare Coding program at York College, contact [cwerner@ycp.edu](mailto:cwerner@ycp.edu).

**Healthcare Coding**  
**PROGRAM STATS**

Total Enrollment:	40
New students Fall '03:	8

**Program Coordinator:**  
Connie Werner  
[cwerner@ycp.edu](mailto:cwerner@ycp.edu)



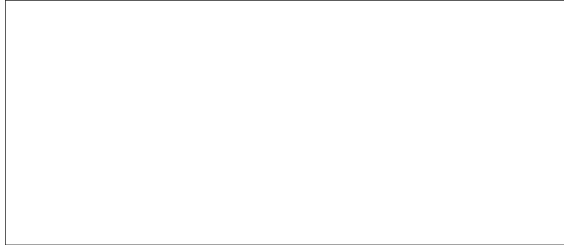
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## **Come Back for a Visit: Join the Biology Alumni Speakers Bureau**

As a student, did you ever wonder, "What will I do with a Biology degree?"

Well, you can help current students address this question by joining the Biology Alumni Speakers Bureau.

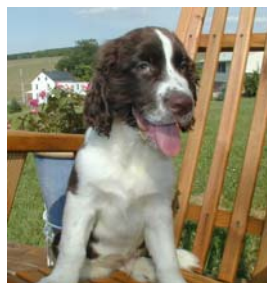
Each year, we will invite several alumni back to campus to offer their personal insight into prospective careers in Biology.

If you're interested in joining the Biology Alumni Speakers Bureau, contact Karl Kleiner at [kkleiner@ycp.edu](mailto:kkleiner@ycp.edu).

## **Newest Additions to the Biology Department**



Linda Walker's new granddaughter,  
**Sierra Brooke**



Debbie Ricker's new puppy,  
**Owen**



Ron Kaltreider's new daughter,  
**Breanna Nicole**