

SPECIAL POINTS OF INTEREST:

Dr. Arlian receives
5-year scabies
research grant from
the NIH.

Gwyn Boehringer,
ESPhD student, wins
award.

Teacher Quality is
improving thanks to
WSU faculty.

Beverly Schieltz
pilots recruitment
program for CLS

Calling all Alumni!!

New DPT program
starting at UD.

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Note from the Chair

Careers in Biology: What do you want to be when you grow up?

Most of you reading this are Biology majors. You may have decided on this course of study in the expectation that it will lead to some particular career, like medicine or environmental management, or perhaps to explore some long-standing interest in mushrooms, genetics, or the brain. Hopefully your studies are now helping you understand the breadth of biology as a field of study, ranging from molecules to ecosystems and from bacteria to mammals. As you encounter more and more aspects of this diversity, and as you discover where your interests and strengths lie, you may well begin contemplating additional possible career trajectories to those you came in with.

In a national survey conducted by Money magazine a few years ago, one hundred jobs were compared based on seven key



factors including prestige, satisfaction, security, annual earnings, and projected growth rate; "Biologist" was rated the top occupation. Careers in biology can contribute to improving human health and personal well being, to environmental protection, to production of food supplies, or to increasing basic human knowledge about the world. Some of the attractions to being a biologist may

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New CLS Director joins Faculty

The Department of Biological Sciences welcomes **Denene Lofland, Ph.D.**, as our new Clinical Laboratory Sciences Director. Dr. Lofland received her Ph.D. in 1999 at Virginia Commonwealth University School of Medicine.

Her research focuses primarily on two areas – *in vitro* evaluation of naturally occurring and synthetic antimicrobial activity of novel chemicals, and the microbiology of *P. aeruginosa* infections as related to cystic fibrosis.

On the personal side of things, Dr. Lofland loves to travel. She recently took a RV trip from Seattle, down the West Coast, across the southwest and southeast, up the East Coast, and finally to Ohio. She loves to visit the beaches, especially the Outer Banks of North Carolina, her home state. In addition, she has enjoyed hiking in the Pacific northwest and California coast and has been known to do a little gardening.

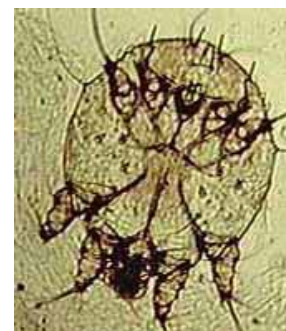
Welcome to the Department, Denene!

Arlian Lab receives 5-year NIH Grant

Dr. Larry Arlian's laboratory received official word that his NIH grant has been approved for full funding over the next 5 years. This grant will support studies of mechanisms of immune response to scabies mites. Scabies is an itchy skin condition caused by the burrowing mite, *Sarcoptes scabiei*. Scabies is contagious through physical contact and often spreads quickly throughout a family, child-care center, school or nursing home.

Research for this grant will include characterization of mite salivary proteins that stimulate a host response, and on mechanisms that prevent infestation in resistant hosts.

Congratulations!



www.safe2use.com

Human Organ Donation Week

April 4-10

Support this great cause by signing up as a donor!

Students for Organ Donation

DONATE LIFE

Make Organ & Tissue Donation Your Way of Life



Quote for the Quarter:

The great tragedy of Science – the slaying of a beautiful hypothesis by an ugly fact

—Thomas H. Huxley

ESPhD student wins Wetlands Award

Gwyn Boehringer, a doctoral student in the Environmental Sciences Program, won the 2006 Rhonda and Paul Sipp Wetland Award of \$1,000 from the Ohio Center for Wetland and River Restoration at The Ohio State University. Her research on trace pollutant bio-degradation in constructed wetlands focuses on the study of microbial genes involved in the dehalogenation of PCE and its degradation products in wetlands constructed for water quality

treatment. Her goal is to develop real-time PCR assays to monitor the expression of reductive dehalogenase genes, and correlate this expression to degradation rates of the contaminants. Gwyn's advisor is **Dr. Stephanie Smith**. Ms. Boehringer received her Bachelor of Science degree from WSU in 1993 and her M.S. in Environmental Sciences in 2003. Between degrees, she worked at NCR Corporation in Dayton, Ohio, as an Environmental and Safety Manager.

Improving Teacher Quality

Dr. Lisa Kenyon, one of the Department's newest faculty members specializing in Science Education, has received her first major grant from the Ohio Board of Regents "Improving Teacher Quality" Program. Dr. Kenyon is the P.I. on the grant, which is collaborative with colleagues at Wright State and the University of Dayton

The grant is titled "Life Science, Physical Science, and Mathematics Professional Development Project for Grades 6-11 Teachers" and will be used to design intensive summer workshops and follow-up programs for 72 teachers.

Congratulations, Dr. Kenyon!

In the News.....

Bev Schieltz, Asst Director for Clinical Laboratory Sciences, was recently featured in a CLMA Vantage Point article "Blood test, Urinalysis and Throat Swabs, Oh My!" (2006; vol. 10). Schieltz piloted a recruitment program in 2005 aimed at motivating high

school students that asks them to consider laboratory science as a possible career. It is currently projected that the clinical laboratory industry will see a significant employee shortage in the next 5-10 years. Nice work, Bev!

(Continued from page 1...)

include work in a dynamic and evolving field, opportunities to help people, animals, or the environment, the international nature of many areas of science, and the possibility of working out of doors. The Rutgers University web site provides a lengthy listing of careers in life sciences, from Agricultural Economist to Zoologist, with links to relevant societies for further information; check out

<http://lifesci.rutgers.edu/~ougi/UG/jobs.htm>.

Those jobs can be classified into more general categories, as on the web site of the American Institute for Biological Sciences, <http://www.aibs.org/careers/#5>. Among the career paths that the AIBS mentions are:

Research: Research biologists work in both laboratory and field settings to understand how living systems work. Research may be “basic,” studying biological mechanisms without a specific practical application in mind, or it may be more directed at specific applications, from clinical medicine to environmental problem solving. Commonly, applications come from basic research in ways that researchers may never have anticipated.

“Based on 7 key factors including prestige, satisfaction, security, annual earnings, and projected growth rate, “Biologist” was rated the top occupation.”

Health care: The range of careers in health care is vast; examples include physical therapist, nutritionist, genetic counselor, doctor, public health administrator, optometrist, veterinarian, pharmacist, dentist, cardiac rehabilitator, epidemiologist, exercise trainer, nurse, and many others.

Environmental management and conservation: Environmental Biologists may address problems that involve specific local issues, such as compliance of industries with environmental regulations, or they may address conservation and preservation of species or ecosystems at scales from regional to international. Jobs might be with governmental or private agencies, zoos, park systems, and elsewhere.

Education: As an educator, you can share your own fascination, excitement, and understanding of living things with others. As an educator at a **College or university**, you may teach students at levels from introductory to graduate, and may mentor students in research. In **primary and secondary schools**, you will teach at a more general level, and have a great opportunity to contribute to the developing interests of young people. **Science museums, zoos, aquariums, parks, and nature centers** often employ educators to design programs such as exhibits, hikes, and presentations for the public.

Biotechnology: Biotechnology is one of the newer and most rapidly changing careers Biologists use modern methodologies, often from molecular biology, to develop and enhance a variety of products and services in fields such as food science and medicine. The tools of bioinformatics may contribute importantly in this and other fields.

Forensic and laboratory science: Laboratory technicians may have a specialty in forensic biology, working with law enforcement agencies to discover and process evidence from crimes. Clinical laboratory science is similar, but applied to patient samples rather than crime scenes. Laboratory technicians also work in academic research labs, pharmaceutical companies, biotechnology, and elsewhere.

Politics and policy: Many of those involved in crafting and interpreting laws lack backgrounds in science, even though those laws may involve substantial background in and implications for science. Science advisors provide essential input to ensuring that decisions are based upon solid science.

Science writing and communication: Not everyone has the chance you do to take lots of classes in biology. Journalists and writers can convey to the general public the excitement, interest, and importance of various topics in biology.

As you progress through your degree program at Wright State, we hope to provide you with the tools to learn about these career options and the skills you will need to succeed in the path you choose. For many of these careers, the undergraduate degree may be just the start, and you may need to consider continuing on to graduate school. But that’s a topic for a future column.



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Quotes from our Alumni:

“EXB prepared me more for medical school than any other major at WSU. The anatomy, biomechanics, and physiology gave me a tremendous background in the human sciences.”

–Jason Pothast ('05)
OSU School of Medicine

“I really appreciate the constructive criticism and honesty with my work. Dr. Pohlman was truly an inspirational professor.”

–Stephanie Francis ('0
OSU PT Program



Did you know.....

The University of Dayton received official approval from the Ohio Board of Regents for their **Doctor of Physical Therapy Program** and is currently taking applications for the Fall, 2006 class. For more information, visit their website at www.udayton.edu

Exercise Biology

Are you interested in being a physical therapist or a fitness trainer? Exercise biology is a program designed to promote and integrate scientific research, education and practical applications of all aspects of exercise biology to prepare undergraduates in fields of physical performance, fitness, health/wellness, and research. Exercise biology consists of three major areas of study: exercise physiology, human motor behavior and human biomechanics. Course work and practical experience are designed with the latest American College of Sports Medicine objectives for comprehensive knowledge in the field. Outcomes of study include the opportunity to take the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA) certification exams.

Our students have participated in graduate programs/employment in the following fields:

- Audiology/Speech
- Cardiopulmonary Rehab Specialist
- Dentistry
- Dietetics and Nutrition
- Exercise Physiology
- Health/Wellness
- Medicine
- Nuclear Medicine
- Nursing: Beacon Program
- Occupational Therapy
- Pharmaceutical Sales
- Physical Therapy
- Research
- University Professor

If you are interested in pursuing our exercise biology program or have any questions about the curriculum, please contact one of the advisors.

Attention WSU Alumni

We need your help! The Department is trying to update our alumni database. If you are an alumnus of WSU Biology, or you know of someone who is (friend, sibling, parent, spouse, etc.), please visit our website at www.wright.edu/biology and click on the “Online Alumni Database” link. We’d love to hear what you’ve been up to!!

Good Luck Winter ‘06 Grads!

Deborah Ahles
Alisha Blalock
Steve Hursch
Lance Lee
Kyle Naiman
Lucimina Tarlano
Joshua Watring
Rachel Hampton
Kara Wendeln

Melissa Bierma
Khanhdung Dao
Adam Ingle
Joseph Lusczek
Karyn Pinson
McKenzie Tiffin
Nina Archie
Jennifer Mattingly
Patricia Temple

Jamie Buening
Kendra Eversole
Saima Khan
Robert McCrae
Anthony Posevitz
Curtis Trump
John Blakelock
Randy Stetzer





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Degrees in Clinical Laboratory Sciences
Bev Schieltz, 259 BH 775-2712
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Study Abroad: Alicante, Spain

Study with professor **Hunt Brown** while exploring Spain! *“Impact of Tourism on the Environment”* is a 1 credit, 300-level course that will be offered during July, 2006. This course will examine the current state of the environment to gain both a general appreciation of its importance and an understanding of the magnitude of the human footprint. Special attention is given to issues surrounding sustainable tourism and the importance that environmental standards are maintained. Visit the University Studies Abroad Consortium website (www.usac.unr.edu) for more information.

The BioLogue is a quarterly student newsletter that contains important dates and information for students in the Department of Biological Sciences. It is available online at:

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

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Spring Quarter Calendar

Mar. 27	Spring quarter begins
Apr. 2	Last day to register (ROX)
Apr. 14	Last day to drop without grade
May 12	Last day to receive a “W”
May 25	Last day to apply for August, 2006 graduation
May 29	University closed (holiday)
Jun 2	Last day of spring qtr classes
Jun 5-10	Final Exams
Jun 10	Graduation

FUTURE DATES:

Jun 12-Jul 13	Summer A term
Jul 17-Aug 17	Summer B term
Jun 12-Aug 17	Summer C term

Sept 5-Nov 18 Fall quarter

ADDITIONAL COURSES OFFERED

SUMMER QUARTER:

BIO 231: Ecology

SUMMER QUARTER SEMINARS:

BIO 492: (B01): Dr. Krane
 (C01): Dr. Runkle

BIO 800: (B01): Dr. Krane
 (C01): Dr. Hull