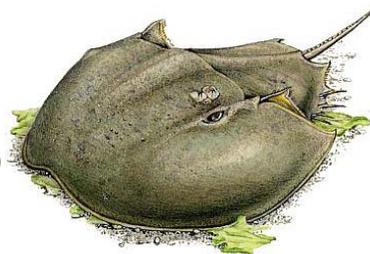


LIMULUS



NEWSLETTER

Department of Biological Sciences, Wagner College, Staten Island, NY

Volume 2009, Issue Spring-03

March, 2009

LETTER FROM THE EDITOR

THE MARCH LIMULUS

The LIMULUS of this month highlights a student who will graduate at the end of this semester and was accepted for a PhD program at the University of Connecticut: Ryan Rogers. Also, an alumnus of our Department, Brian Petuch, was recently certified by the National Registry of Microbiologists. Other articles address the upcoming Earth Day and the first wind turbine on Staten Island. The answers for Dr. Moorthy's "lateral thinking quiz" can be found on page 4.

I hope you enjoy the March issue of the LIMULUS.

Dr. Horst Onken, The Editor

CURRICULUM NEWS

2009 SUMMER COURSES AND INTENDED AUDIENCE

BI 110/110L Environmental Biology. Session A

Non-science majors and Environmental Studies minors

BI 120 Human Biology. Runs May 18-May 29

Non-science majors

BI 209/209L Human Anatomy and Physiology I. Session A

Nursing and Physician Assistant majors

BI 210/210L Human Anatomy and Physiology II. Session B

Nursing and Physician Assistant majors

BI 213/213L Cells, Genes, and Evolution. Session A.

Biology majors and pre-health students

BI 323/323L Basic Medical Histology. Session A.

Biology majors

BI 335/335L Natural History of the Mid-Atlantic States.

Runs May 18-May 29

Biology majors and Environmental Studies minors

BI/MI 400E Experiential Component of Senior RFT. Session A.

Biology and Microbiology majors

MI 200/200L Microbiology. Session B

Microbiology, Nursing, and Physician Assistant majors

MI/BI 517/517L Electron Microscopy. Session B

Microbiology and Biology majors and Microbiology graduate students

MI 615/615L Electron Microscopy. Session B

Microbiology graduate students

MI 797, 798, 799 Research. Session A

Microbiology graduate students

Contributed by Dr. Palestis

BIOLOGY STUDENT NEWS

GOING TO GRADUATE SCHOOL: AN INTERVIEW WITH RYAN ROGERS



Every year, many Wagner students apply to prestigious graduate school programs across the nation. I recently interviewed Ryan Rogers, an accomplished senior who recently received some exciting news.

Q: Can you tell me a little bit about the program that you got accepted into?

A: I got accepted to the PhD program at the University of Connecticut Health Center. The Bio-

medical Science Department has an umbrella program and it allows students to focus on a variety of different fields.

Q: When did you decide that you wanted to pursue a PhD?

A: I originally wanted to go to Optometry School because I have early poor vision. Later, I considered going to medical school, and I even worked as a medical assistant in a pediatrician's office. I realized that this was not the career path for me. I started to do research which focused on the effects of UV radiation on chromosomes. I discovered that I wanted to become a professor and pursue a PhD. As a professor, you can do research and teach at the same time.

Q: What kind of research do you hope to focus on?

A: I am really interested in immunology or doing research that deals with genetics and diseases.

Q: What kind of advice would you give students applying to graduate school?

A: I would tell students to start studying for the GRE early! It is one of the hardest exams I have ever taken. I would advise students to remember a few things when they are going on an interview for graduate school. It is important to be yourself and to be prepared to talk about your research. You need to make sure that you are assertive and ask the interviewers a lot about themselves. The interviewers enjoy sharing their experiences with you, and you should also make sure you are familiar with their research as well.

Q: What clubs/organizations, or extracurricular are you part of?

A: I am captain of the Cross-Country and Track and Field team. I am also president of Tri-Beta, and secretary of the Stu-





dent Advisory Committee. In addition, I am a member of ODK and a peer tutor for biology.

On behalf of the Limulus staff, I would like to thank Ryan for taking the time out of her schedule to conduct this interview. We wish her the best of luck in all of her future endeavors!

Contributed by Nidhi Khanna with a photograph by Sejmir Izeirovski

BIOLOGY CLUB NEWS

The Biology Club visits the BODIES EXHIBIT on Saturday, April 4th. Contact Sejmir Izeirovski by e-mail as soon as possible (Sejmir.izeirovski@wagner.edu), if you also want to go.

The Biology Club asks its members to actively contribute to the Eastern Colleges Science Conference at Wagner College on April 25th. There are also plans for another clean-up at the Arthur Kill shore line.

Contributed by Sejmir Izeirovski

OPPORTUNITIES

RESEARCH WITH MOSQUITOES AND CRABS

Dr. Onken offers research opportunities for students in the frame of a project in which he collaborates with scientists from Washington



State University, the University of Idaho, and the University of Alberta (Edmonton, CA). The project is funded by the National Institute of Health and studies the physiology of the midgut of larval yellow fever mosquitoes (*Aedes aegypti*). Mosquitoes are vectors of a number of parasites, transmit devastating diseases like malaria, yellow fever and dengue, and are a major threat to the health of billions of people on our planet. The principal investigators of this project address larval mosquitoes, because it appears more straightforward to fight these vectors as long as they are confined in an aquatic habitat.



In collaboration with colleagues from the U.S. (Mt. Desert Island Biological Laboratories, Maine), Brazil (University of São Paulo in Ribeirão Preto, University of Paraná in Curitiba)

and Canada (University of Manitoba in Winnipeg) Dr. Onken pursues research with Crustacea related to the osmoregulatory capacities and mechanisms of crabs. Together with Dr. Alaudin (Chemistry) and Professor Beecher (Biology), an ecophysiological study is in an early stage of planning.

Dr. Onken can offer research opportunities for two to three students. If interested contact Dr. Onken in his office (Megerle Science Hall Room 411), lab (Megerle Science Hall Room 406) or via e-mail (horst.onken@wagner.edu) or phone 420-4211.

Contributed by Dr. Onken

EXPERIENCES

APRIL 22nd IS EARTH DAY

Earth Day was established in the United States about forty years ago to encourage more Americans to take better care of the environment. Earth Day was originally founded to raise awareness about pollution, oil spills, and the destruction of wildlife. Since then, Earth Day has become a day that is internationally celebrated. People around the globe are urging more individuals to take action and to help preserve the planet. The central focus of Earth Day presently is global warming. Many scientists have warned politicians and citizens about the dangers of global warming. It is estimated that almost half a billion people are involved in Earth Day events every year. The message of Earth Day is simple; anybody can get involved and make an impact to save the planet. Here are some great daily tips that can help save our planet:

1. Make sure you turn off all electronic devices (such as cell phone chargers, stereos, televisions, etc) when you are not using them. It is estimated that you could even save about \$10.00 a month on your electric bill if you unplug electronic devices like toasters and washing machines.
2. Most water heaters are set to around 145 degrees Fahrenheit. Just by lowering water heaters by 25 degrees will save around 160 pounds of carbon dioxide!
3. Fix any leaks that you may have around the house. On average, a leaky toilet wastes 200 gallons of water a day.
4. Climate change can be observed even at the workplace. Put computers and other office supplies on stand-by. It also helps to turn off lights after leaving the office. By switching light bulbs to ENERGY STAR bulbs, you can save at least \$60 a year on energy bills.
5. Contact to your local politician or councilman to make sure their policies focus on environmental preservation. Ordinary citizens can make a difference. (This tip was cleverly suggested by Dr. Stearns).
6. Reduce, reuse, and recycle! It is important to do all three of these things to reduce greenhouse gas emissions and pollution.

Wagner College's Earth Club is planning many on campus events during Earth Week. For example, the Earth Club is planning to do a clean up behind Haborview Hall. If you would like to get more information on Earth Week, please contact the active president of Earth Club, Megan Allen (megan.allen@wagner.edu).

If you would like more information on how to save energy, please visit <http://www.earthday.gov/athome.html> and <http://www.epa.gov/earthday/>. Remember, everyday is Earth Day! Statistics were compiled from www.epa.gov.

Contributed by Nidhi Khanna

FIRST WIND TURBINE ON STATEN ISLAND

Many countries around the world are investing in wind power. Germany is currently the nation that uses the most wind power. In the United States, only one percent of our electricity is produced by wind energy. Many environmentalists are hoping that the tax credit offered in the new economic recovery will allow the wind industry to develop more turbines throughout the United States.





Ray Mascucci, is the developer of the living community called the "Tides of Charleston." The "Tides of Charleston," is located in the Arthur Kill section of Staten Island and is also home to the island's very first wind turbine. Mascucci hopes that his wind turbine will encourage more Staten Island residents to invest in wind energy. Many residents hoped that a wind farm would be built over the old Fresh Kills Landfill. Fresh Kills is ideal for a wind farm because this area is near the coastline. It is estimated that seven wind turbines could be built in Fresh Kills and they would probably stand at around 400 feet. Mascucci realizes the importance of wind energy, and he has even dedicated his career to alternative energy. He owns a company that sells and fixes wind turbines. The "Tides of Charleston" wind turbine may bring around \$3000 worth of electricity to the area each year. Many local residents are hoping that more wind turbines will be installed all over Staten Island. According to the American Wind Energy Association, wind turbines can save the average person around 50-90% on reduce electric bills. The average life span of one wind turbine is about 20 years, and statistics like these are encouraging more residents to invest in wind energy. The best part of wind turbines is that very little maintenance is required because the wind does all of the work for you!

For more information on wind turbines, please visit <http://www.awea.org/>. If you would like to know more about the "Tides of Charleston" wind turbine, please visit <http://www.nytimes.com/2009/03/15/nyregion/thecity/15disp.html?ref=science>.

Contributed by Nidhi Khanna

PUBLICATIONS

Izeirovski, S., Moffett, S. B., Moffett, D. F. & **Onken, H.** (*in press* 2009). The anterior midgut of larval yellow fever mosquitoes (*Aedes aegypti*): Effects of nutrients on the transepithelial voltage and strong luminal alkalinization. *Wagner College Forum for Undergraduate Research*.

PROFESSIONAL MEETINGS

FUTURE MEETINGS

DO NOT FORGET TO PREPARE FOR THE FOLLOWING CONFERENCE:

The next **Eastern Colleges Science Conference** will be held at Wagner College (Staten Island, NY) on Saturday, April 25, 2009. For any further details visit:

http://www.wagner.edu/departments/biological_sciences/ECSC

Volunteers from Wagner College who want to help to make this meeting an extraordinary experience for all our visitors should contact Professor Rath (lraths@wagner.edu).

ALUMNI

BRIAN PETUCH CERTIFIED BY NRM

Brian Petuch, an alumnus of Wager College, was recently certified by the National Registry of Microbiologists. We received the following press release from the American College of Microbiology:

WASHINGTON, DC—February 24, 2009— Brian R. Petuch, M.S., Biosafety Officer, Merck & Co., West Point, PA, is now a Registrant of the National Registry of Microbiologists (NRM). On November 17, 2008, he became certified as a Specialist Microbiologist in Biological Safety Microbiology. To earn the NRM credential, Mr. Petuch first met rigorous educational and experiential eligibility requirements and then passed a comprehensive written examination. He has demonstrated the knowledge and skills necessary to develop, implement, and manage a comprehensive biological safety program. The NRM is a voluntary certifying body which was founded in 1958 and has certified microbiologists in all 50 states, the District of Columbia, and Puerto Rico and on six continents. The goals of the NRM are to minimize risk to the public by identifying qualified microbiologists; encourage mastery of microbiological knowledge and skills that contribute to improving the human condition; and foster professional pride and a sense of accomplishment in qualified microbiologists.

The American College of Microbiology is the component of the American Academy of Microbiology responsible for accreditation of postdoctoral training programs, certification of microbiologists and immunologists, and other programs consistent with its mission of providing leadership in promoting the high quality and ethical practice of the microbiology and immunology professions for the benefits of human, animal, and environmental well-being. For more information about the NRM or other programs of the American College of Microbiology, please visit www.microbiologycert.org or contact the College at college@asmusa.org.

Contributed by Dr. Onken

Dear Alumni,

If you are interested in contributing to our newsletter, you are very welcome to do so. Contact Dr. Onken by e-mail (horst.onken@wagner.edu) with your submission, comment, ideas or questions! We are excited to hear about where you are, how and what you do!

MISCELLANEOUS

If your contribution does not fit in any of the sections above, you can post it here.

DO YOU MISS A SECTION? LET ME KNOW WHICH AND MAKE A CONTRIBUTION!





PUZZLES, JOKES, QUOTES, CARTOONS

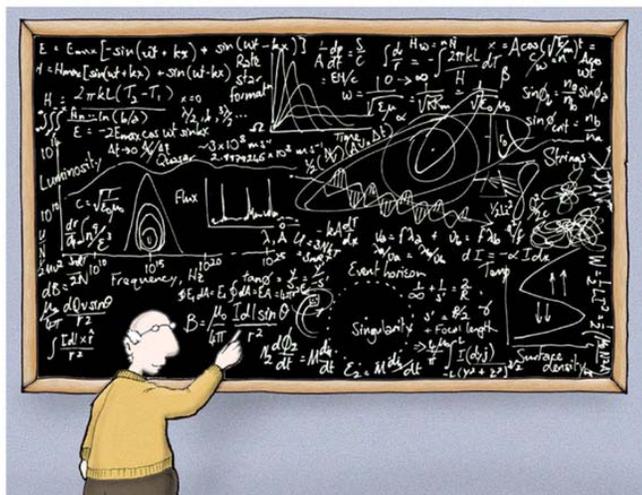
LATERAL THINKING WORD PUZZLES:

<u>Man</u> Board	<u>Stand</u> I	/R/E/A/D/I/N/G/
R O ROADS D S	cycle cycle cycle	<u>Q</u> M.S. Ph.D.
Knee Light	<u>Ground</u> feet feet feet feet feet feet	T O W N
THINK	T O U C H	ecnalg
Death / Life	<u>ii ii</u> ● ●	ababaabbaabbaaabbaabbb...

Answers:

man overboard	I understand	reading between the lines
crossroads	tricycle	two degrees below zero
neon light	six feet underground	downtown
think big	touchdown	glance backwards
life after death	dark circles under eyes	long time no see

CARTOON:



Science made simple!

Modified from www.lab-initio.com

GUIDELINES FOR CONTRIBUTORS

Authors in all sections should keep in mind that not all readers are specialized in their area of interest. Keep your contribution on a level that everybody can understand.

Contributions may vary in length between about 50 and 500 words and must be submitted by e-mail to horst.onken@wagner.edu.

Photographs or other images that accompany an article are very welcome, but must be submitted as separate files (high quality jpg is the preferred file format) attached to the e-mail. Be aware that photographs/images may be minimized in size.

Indicate the section of the newsletter where you want your contribution to appear.

The editor reserves his right to edit your contribution or post an immediate response.

Editing may involve publishing contributions in other sections as indicated by the author.

All contributions will clearly indicate the author's identity.

All contributions are reviewed and publication may be refused by the editor.

DEADLINE FOR THE NEXT NEWSLETTER:

MONDAY, March 23

The Editorial Board:

Editor: Dr. Horst Onken, Associate Professor

Assistant Editor: Stephanie Rollizo, Dept. Secretary

Student Assistant Editor: Nidhi Khanna (Biology major)

Student Assistant Editor: N.N.

