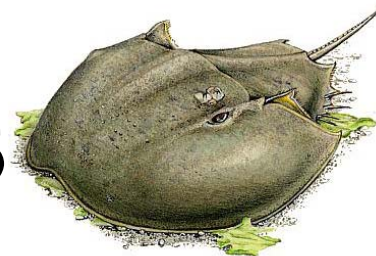


# LIMULUS



## NEWSLETTER

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

Volume 2009, Issue Spring-04

April, 2009

### LETTER FROM THE EDITOR

#### THE APRIL LIMULUS

The LIMULUS of this month emphasizes the Eastern Colleges Science Conference (ECSC) held at Wagner College on April 25. For me it was a great experience and I saw how extremely well the facilities of Wagner College are suited for a scientific conference of this magnitude (200-350 participants). Other contributions address TriBeta elections and activities, and we received news from an alumn, Thomas Smolka (2004), who teaches Science at St. John's Lutheran School.

I wish everybody good luck for the final exams, farewell to the graduating seniors, and a great summer for everybody,

Dr. Horst Onken, The Editor

### CURRICULUM NEWS

#### SENIOR RFT

The rules for the senior RFT have been changed. The experiential part of the senior RFT (BI 400E) must contain an experimental component. BI 400E must be research in the Department of Biological Sciences or an internship in a research institution. In both cases students need a supervisor from the faculty of the Department of Biological Sciences. Another change is that all seniors are expected to write a thesis of a particular format in the frame of BI 400. More detailed information and template files for the thesis can be found on the website of the Department of Biological Sciences at [http://www.wagner.edu/departments/biological\\_sciences/senior\\_rft](http://www.wagner.edu/departments/biological_sciences/senior_rft).

These new rules for the senior RFT apply to all those students who declare(d) their major during or after March 2009. For Biology majors who declared their major before March 2009 the new rules are optional.

Contributed by Dr. Onken

### 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. Alauddin (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 (Room 406) or via e-mail ([horst.onken@wagner.edu](mailto:horst.onken@wagner.edu)) or phone 420-4211.

Contributed by Dr. Onken

I wished more colleagues would like to use the LIMULUS in order to shortly describe their research and offer opportunities for research collaboration! Then we would not need to read in every newsletter the same stuff about mosquitoes and crabs!

The Editor

#### COMMUNITY SERVICE OPPORTUNITY

Greetings Everyone,

I am Nidhi Khanna and I am currently a sophomore. I am working with this non-profit organization called *Planting Peace*. *Planting Peace* has many sub-organizations including one called *The Clean World Movement*. The *Clean World Movement* is trying to encourage more individuals around the world to recycle and to take better care of the planet. I am working with *The Clean World Movement* as the environmental director in my community. I am organizing some clean-ups in Staten Island during the month of May and throughout the summer. If anybody is interested in helping out, please feel free to contact me at [nidhi.khanna@wagner.edu](mailto:nidhi.khanna@wagner.edu). Thanks for your interest and I look forward hearing from you! If you





would like more information about the organization I am working with, please visit: <http://www.plantingpeace.org/>.

*Contributed by Nidhi Khanna*

## BIOLOGY CLUB NEWS

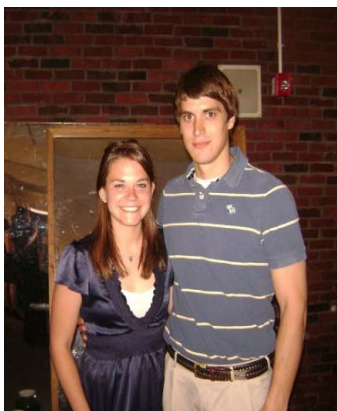
The Biology Club visited the BODIES EXHIBIT on Saturday, April 4<sup>th</sup>. Members of the Biology Club actively volunteered at the to the Eastern Colleges Science Conference. There are also plans for another clean-up at the Arthur Kill shore line. Elections will take place on Thursday, April 30.

*Contributed by Sejmir Izeirovski*

## TRI-BETA NEWS

### TRI-BETA INITIATION

Tri-Beta held an initiation ceremony for its new members on Friday, April 17<sup>th</sup> in Gatehouse Lounge. Professor Corbo was the honorary speaker at the initiation. Tri-Beta's Executive Board is composed of all seniors, and Professor Corbo has helped each of them during their time at Wagner. Ryan Rogers stated, "Professor Corbo has done so much for all of us. We would like to have him speak at the ceremony, just to show our gratitude." Corbo gave some advice to the new members of Tri-Beta. Corbo said, "Remember, you can do anything that you want to as long as you have the passion and drive to do it. There are a lot of opportunities for Biology students at Wagner. I have benefited greatly from my time at Wagner." The memorable ceremony was a huge success and couldn't have been possible without the help of seniors Ryan Rogers, Tanya Modica, Dina Hussam, Yulia Seldina, Georgia Dellas, and juniors Yolana Fuks and Michael Stanton. On behalf of Limulus, we wish the seniors from Tri-Beta the very best on all of their future endeavors!



### NEW MEMBERS OF TRI-BETA:

Congratulations to the new members of Tri-Beta!

Ashley Benvenuto, Medije Mashkulli, Anna Pullaro, Jessica Cozzolino, Francis Tiripicchio, Almir Spahiu, Peter Pisano, Shannon O'Neill, Salvatore Valenti, Emily Werkheiser, Violeta Capric, and Nidhi Khanna.

### TRI-BETA ELECTIONS

Tri-Beta recently held elections for its new officers. Congratulations to all! President: Yolana Fuks, Vice President: Michael Stanton, Secretary: Jessica Cozzolino, Treasurer: Violeta Capric, Historians: Robyn McLaughlin and Shannon O'Neill.

*Contributed by Nidhi Khanna with photographs by Ryan Rogers*

## EXPERIENCES

### EASTERN COLLEGES SCIENCE CONFERENCE

On Saturday April 25<sup>th</sup>, Wagner College hosted the Eastern Colleges Science Conference. 271 undergraduate students participated in the meeting with twenty student presentations from Wagner for this prestigious event. A handful of students represented the Biology Department in the conference. Participants included: Christopher Cappelli, Georgia Dellas, Sejmir Izeirovski, Lauren Levy, Anna Lysenko, Tanya Modica, Ryan Rogers, Joseph Scala, Yuliya Seldina and Marlene Streisinger. Members of Tri-Beta and the Biology Club served as volunteers for the event. Many helped registered visiting participants and acted as student guides. During the afternoon, many attendees were allowed to listen to three guest speakers who spoke simultaneously. Dr. Susan S. Kilham, a Professor of Environmental Science at Drexel University gave a lecture about global warming and the mountains of evidence that supports it. She does extensive research that deals with the effects of climate change on various ecosystems. Dr. Alejandra Alonso is currently a Professor of Neuroscience at the College of Staten Island and she gave an interesting lecture about the research she has completed on Alzheimer's disease. The third speaker was Dr. Samuel Gaertner, a Professor of Psychology at the University of Delaware. He spoke about his research pertaining to research and prejudices amongst many social and cultural groups.

The students of the Department of Biological Sciences contributed with manuscripts, platform presentations and posters. See below for the titles and authors. Two manuscripts and a poster presentation won Excellence Awards. The Limulus Staff would like to congratulate all of the participants and winners for a job well done!

The ECSC was a huge success and could not have been possible without the hard and very successful work of Dr. Donald Stearns (President of the ECSC), Professor Linda Raths, and Ms. Stephanie Rollizo.

*Contributed by Nidhi Khanna with photographs by Ryan Rogers*

### MANUSCRIPTS SUBMITTED TO ECSC

**GENDER DIFFERENCES CREATED BY URINARY CREATININE ADJUSTMENTS MADE TO HEAVY METAL MEASUREMENTS.** Christopher Cappelli<sup>1</sup>, Mary Gamble<sup>2</sup>, X Liu<sup>3</sup>, Pamela Factor-Litvak<sup>4</sup>, Vesna Slavkovic<sup>2</sup> and Joseph Graziano<sup>2</sup>, <sup>1</sup>Department of Biological Sciences,



Wagner College; <sup>2</sup>Department of Environmental Health Sciences, Columbia University; <sup>3</sup>Department of Biostatistics, Columbia University; <sup>4</sup>Department of Epidemiology, Columbia University (**Excellence Award!**).

**THE ANTERIOR MIDGUT OF LARVAL YELLOW FEVER MOSQUITOES (*Aedes aegypti*): EFFECTS OF NUTRIENTS ON THE TRANSEPIHELIAL VOLTAGE AND STRONG LUMINAL ALKALINIZATION.** Sejmir Izeirovski<sup>1</sup>, Stacia B. Moffett<sup>2</sup>, David F. Moffett<sup>2</sup> and Horst Onken<sup>1</sup>, <sup>1</sup>Department of Biological Sciences, Wagner College; <sup>2</sup>School of Biological Sciences, Washington State University (**Excellence Award!**).

PLATFORM PRESENTATIONS AT ECSC

**THE STUDY OF CHROMOSOMAL ABERRATIONS IN *Vicia faba* AS A RESULT OF EXPOSURE TO UVA AND UVB RADIATION.** Ryan Patricia Rogers and Ammini S. Moorthy, Department of Biological Sciences, Wagner College; <sup>2</sup>Department of Biological Sciences, Wagner College.

**THE EFFECTS OF OSCILLATING ELECTRICAL FIELDS ON *Escherichia coli* AND *Staphylococcus aureus*.** Yuliya Seldina and Joseph Scala, Department of Biological Sciences, Wagner College.

POSTER PRESENTATIONS AT ECSC

**ELECTRICAL SUPPRESSION OF BACTERIAL GROWTH AND REPRODUCTION.** Joseph Scala and Yuliya Seldina, Department of Biological Sciences, Wagner College.

**GENDER DIFFERENCES CREATED BY URINARY CREATININE ADJUSTMENTS MADE TO HEAVY METAL MEASUREMENTS.** Christopher Cappelli<sup>1</sup>, Mary Gamble<sup>2</sup>, X Liu<sup>3</sup>, Pamela Factor-Litvak<sup>4</sup>, Vesna Slavkovic<sup>2</sup> and Joseph Graziano<sup>2</sup>, <sup>1</sup>Department of Biological Sciences, Wagner College; <sup>2</sup>Department of Environmental Health Sciences, Columbia University; <sup>3</sup>Department of Biostatistics, Columbia University; <sup>4</sup>Department of Epidemiology, Columbia University (**Excellence Award!**).

**THE ANTERIOR MIDGUT OF LARVAL YELLOW FEVER MOSQUITOES (*Aedes aegypti*): EFFECTS OF NUTRIENTS ON THE TRANSEPIHELIAL VOLTAGE AND STRONG LUMINAL ALKALINIZATION.** Sejmir Izeirovski<sup>1</sup>, Stacia B. Moffett<sup>2</sup>, David F. Moffett<sup>2</sup> and Horst Onken<sup>1</sup>, <sup>1</sup>Department of Biological Sciences, Wagner College; <sup>2</sup>School of Biological Sciences, Washington State University

**MORPHOLOGICAL CHARACTERIZATION OF NEUROVASCULATURE AND WHOLE BLOOD OF THE ADULT ZEBRA FISH (*Danio rerio*).** Marlene Streisinger<sup>1</sup>, Lauren Levy<sup>2</sup>, Zulmarie Franco<sup>3</sup>, Linda Rath<sup>2</sup>, Christopher Corbo<sup>2</sup> and Zoltan Fulop<sup>2</sup>, <sup>1</sup>Department of Nursing,



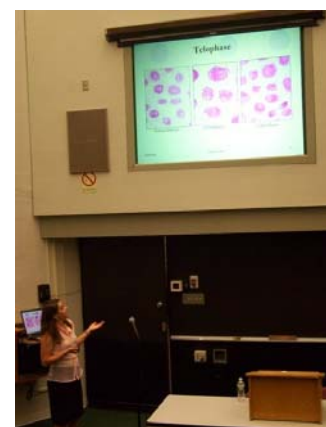
Wagner College; <sup>2</sup>Department of Biological Sciences, Wagner College; <sup>3</sup>Department of Microbiology, Wagner College

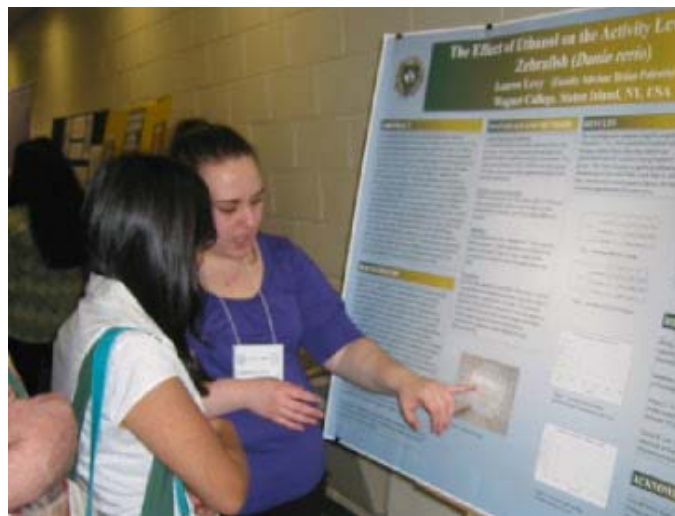
**PREPARATION OF THIN SECTIONS OF *Drosophila* OVARIES FOR EXAMINATION BY TRANSMISSION ELECTRON MICROSCOPY.** Tanya Modica<sup>1</sup>, Georgia Dellas<sup>1</sup>, Christopher Corbo<sup>2</sup> and Heather A. Cook<sup>1</sup>, <sup>1</sup>Department of Biological Sciences, Wagner College; <sup>2</sup>Department of Center For Developmental Neuroscience, CUNY Staten Island

**USE OF SQUASHED RETINA AND OPTIC TECTUM TO STUDY REGENERATIVE CAPACITIES OF THE VISUAL SYSTEM IN ADULT ZEBRAFISH (*Danio rerio*).** Michael Gutkin, Anna Lysenko, Christopher Corbo, Linda Rath and Zoltan Fulop, Department of Biological Sciences, Wagner College

**THE EFFECTS OF DIFFERENT ETHANOL CONCENTRATIONS ON THE ACTIVITY LEVEL OF ADULT ZEBRAFISH (*Danio rerio*).** Lauren Levy and Brian Palestis, Department of Biological Sciences, Wagner College

PHOTOGALLERY OF THE ECSC







### RAHWAY RIVER CLEANUP

On Sunday April 19<sup>th</sup>, the Biological Honor Society Tri Beta went on their annual cleanup at the Rahway River. New and current members of Tri-Beta spent hours cleaning the Rahway River with Dr. Palestis. While members were picking up trash, Dina Hussam (Treasurer) found a garbage can in the river along with a crate! Some members even found traffic cones in the river! Students collected hundreds of plastic bottles, aluminum cans, take-out containers, and even empty ChapSticks! Many new members of Tri-Beta thought the cleanup was a fun bonding experience. After four hours, Tri-Beta collected dozens of bags of trash! The Rahway River Clean-Up was a memorable experience filled with hours of laughter. The seniors began this tradition about two years ago, and Tri-Beta hopes to continue cleaning the Rahway River for years to come.

Contributed by Nidhi Khanna with photographs by Dina Hussam



New member Salvatore Valenti picks up trash near the river.



Senior Yuliya Seldina can't wait to start beautifying the Rahway River!



Tri-Beta poses after cleaning up the Rahway River.



### PUBLICATIONS

**Palestis, B.G.** (2009, in press). Fluctuating asymmetry in common tern chicks varies with hatching order and clutch size. *The Auk*.

Trivers, R., **B.G. Palestis** & D. Zaatari. (2009). *The Anatomy of a Fraud: Symmetry and Dance*. TPZ Publishers. Antioch, CA.

### ERRATA

#### STUDENT PROFILE IN MARCH ISSUE OF LIMULUS

It was brought to my attention that the last issue of Limulus had a error in the student profile. In Ryan Rogers' interview, it should have said that she had "really poor vision" and not "early poor vision." I apologize for the mistake.

Contributed by Nidhi Khanna

### APOLOGIES

#### E-MAIL INCONVENIENCE

I want to apologize! Since the beginning of the LIMULUS I have sent out the newsletter to address lists. I sent these mails directly to all addresses in the list. Only now I became aware that this allows everybody to see everybody's e-mail address. I hope this did not cause any inconvenience to anyone. From now on the newsletter will be sent out with the addresses under BCC.

You never stop learning, THE EDITOR.



## ALUMNI

### NEWS FROM THOMAS SMOLKA



Thomas Smolka graduated in 2004 with a BS in Biology. In summer 2005, Thomas worked as a bear biologist in New Mexico. Until 2007 he managed an event production company. Then Thomas became a technology teacher at St. John's Lutheran School. His robotics team recently won the second place

in the first NYC Robotics tournament and was recently featured in the SI Advance. Congratulations!

The article in the SI Advance can be accessed at <http://www.silive.com/siadvance/stories/index.ssf?/base/news/1237469406265670.xml&coll=1>

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](mailto: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

### SWINE FLU

The swine flu is making headlines this past week. The last time a major pandemic wiped out a majority of the world's population was in 1919. The Spanish flu killed millions of people worldwide because the virus started spreading across the globe. A virus that is found in pig populations causes swine flu. This virus has strains referred to as swine influenza virus. There are three types of SIVs including Influenza A, Influenza B, and Influenza C. Influenza A is the more commonly found and the World Health Organization believes that Influenza A is responsible for all of the recent cases of swine flu. Influenza A can be further examined into smaller categories. These smaller categories are referred to as subtypes. Influenza A has five subtypes: H1N1, H1N2, H3NI, H3N2, and H2N3. The reported cases of swine flu have been traced to the subtype H1N1. Many people around the world are trying to avoid this flu. Individuals who handle pigs on a regular basis are more vulnerable for infection. The virus spreads when people come in contact with certain poultry or pig populations. The virus strain that is found in pigs can spread to human populations. The SIV strain mutated and this basically means the genetic code of the SIV strain changed. This allowed the virus to spread from one human being to another. According to CNN, most people that were reported to have swine flu came in contact with pigs. CNN reported that there are 90 cases of swine flu in the world and 42 of those cases are in the United States alone. The WHO believes that the swine flu started in Mexico,

and the United States has started to increase security at the Mexican border. Symptoms of swine flu are: sore throat, headaches, fever, cough, and fatigue. If a person has been infected by swine flu, it is recommended that they take antiviral drugs. For more information on swine flu, please visit:

<http://www.cnn.com/2009/HEALTH/04/28/swine.flu/index.html#cnNSTCOther1> and

<http://www.nytimes.com/2009/04/28/health/28hong.html?ref=health>.

Contributed by Nidhi Khanna

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

## PUZZLES, JOKES, QUOTES, CARTOONS

CARTOON:



"I'd rather we don't mention this in the annual report."

From [www.lab-initio.com](http://www.lab-initio.com)

### 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.

