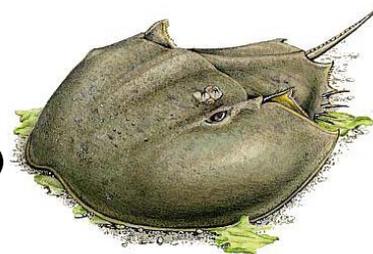


LIMULUS



NEWSLETTER

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

Volume 2008, Issue Fall-03

November, 2008

LETTER FROM THE EDITOR

THE NOVEMBER LIMULUS

This is the last issue in 2008. Apart of news from the Biology Club and TriBeta we have an interview with the Pfister Scholar, Alina Guseynova. Georgia Dellas and Tanya Modica submitted a report about the annual fall meeting of MACUB. A report from Dr. Cook's class Gene Expression and Development and a book recommendation complete the November LIMULUS.

I wish everybody good luck for the final exams, a great winter break, Merry Christmas and all the best for 2009.

Dr. Horst Onken, The Editor

LETTERS TO THE EDITOR

No letters received.

BIOLOGY STUDENT NEWS

THE FIRST PFISTER SCHOLAR: ALINA GUSEYNOVA

Dr. Onken: Hello Alina. Although a little late, I would like to welcome you to Wagner College and to the Department of Biological Sciences. May be you can imagine that you, as the first Pfister Scholar, are of special interest to our department. Everybody here is curious and wants to know a little more of your background. Can you tell us where you are from, about your time in school and how it came that you chose Wagner College for the start of your higher education?



Alina: Thank you for that brief welcome, Dr. Onken. I appreciate the curiosity and would love to tell you a little about myself. I'm from Brooklyn, New York, not very far from Wagner College at all. I attended a very large, specialized high school that concentrated greatly on mathematics and the sciences. When it came down to applying to colleges in the fall of senior year, I very much wanted a small school with a general education concentration. Wagner College seemed like it had a

great pre-med program and I was very impressed with the

professors that teach many of the students that major in biology.

Dr. Onken: Your first semester at Wagner College is almost over. What do you think so far? Does life at Wagner College meet your expectations? Do you like your first classes in college? Is there anything you think could be improved to make you feel more at home?

Alina: I know, it's very surreal because it feels like orientation was only yesterday. It's been pretty awesome getting to experience college life here. Wagner College has been both exciting and overwhelming at the same time which I was kind of hoping and expecting at the same time. I really like my first classes a lot because I enjoyed taking biology and chemistry in high school a lot. I think that being close to home kind of makes the adjustment easier and the setting doesn't really feel that different. A home-cooked meal every now and then would make it close to perfect though haha.

Dr. Onken: What about extracurricular activities? Have you already become interested in joining groups like the Biology Club or TriBeta?

Alina: I am part of the Pre-Health Society and enjoy the events they plan. I recently participated in Up 'Til Dawn and thought that it felt very rewarding and enjoyable at the same time. I am also a member of Habitat for Humanity and am excited on going to a build sometime in the near future.

Dr. Onken: Can you tell us a little about your future plans? Into which direction do you want to steer your educational career. Do you already have wishes or plans or your graduate education or for your choice of a profession?

Alina: My future plans, like probably some in the biology majors, are to attend medical school and become a physician. I am hoping to also get involved in medical research throughout my four years at Wagner and after graduation.

Dr. Onken: You are the Pfister Scholar. Do you have an idea who Dr. Anthony Pfister was?

Alina: Yes, many of the professors in the biology department were kind enough to tell me a little about his contributions to Wagner College and of course, who he was as a person. I was very surprised by the many years he spent at the college being a professor of both biology and microbiology. I am very flattered to be receiving such a scholarship named for someone who accomplished so much.

Dr. Onken: Alina, I wish you all the best for your time with us at Wagner College. It was a great pleasure to talk with you. Thank you for your time.

Alina: Thank you very much, Dr. Onken, the pleasure was all mine. I wish you a very happy Thanksgiving!





BIOLOGY CLUB NEWS

The Biology Club made again a field trip to the Arthur Kill shore cleaning the Blazing Star Burial Ground and the shore line. Apart of old tires and oil barrels the major part of the trash was plastic bottles that have been inadequately disposed. When collecting these bottles it was easy to recognize their different ages. Evidently they drift around the New York water ways for different times until they are flooded onto the shore.



Contributed by Dr. Onken

TRI BETA NEWS

Tri-Beta will be hosting the annual faculty luncheon on Monday December 1 between 11am and 1pm in the 4th floor break room! Feel free to stop by and enjoy some delightful treats or bring some to share. Also if there is anything you would like to contribute to the society that would be wonderful! We look forward to seeing you there!

Thank you!

Ryan Rogers

Tri-Beta President

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

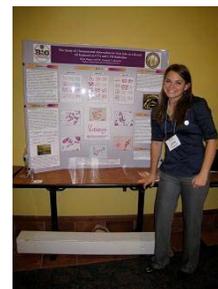
interested contact Dr. Onken in his office (Megerle Science Hall Room 411), lab (Megerle Science Hall Room 406) or via e-mail (horst.onken@wagner.edu) or phone 420-4211.

Contributed by Dr. Onken

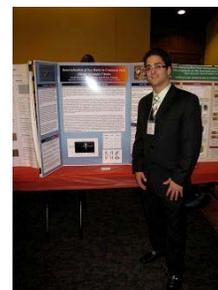
EXPERIENCES

41st MACUB CONFERENCE

Our trip to Montclair State University in Montclair, New Jersey for this year's MACUB conference was one that we will never forget. Upon hearing that we were signed up to present a poster on our research we had been working on since this past summer, feelings of both excitement and nervousness filled our minds--Will we be able to efficiently present these results to other students and professors? Considering this was the first biology conference for both of us, we did not know what to expect but wanted it to be an event to look back on and be proud of.



Seeing all the participants from the different colleges with their posters depicted the various types of research ranging in environmental, physiological, genetic even to microbiological was a great sight to see. All of the professors who stopped by were cordial and interested in what we were presenting. What was even better was that we were able to answer their questions, which gave us a great feeling of accomplishment. MACUB has prepared us for future presentations. We will continue with our research and hope to present our completed research this coming spring at the Eastern Science Conference here at Wagner.



Contributed by Georgia Dellas and Tanya Modica with photographs by Sejmir Izeirovski.





219 UNDER THE MICROSCOPE

Dr. Cook's class Gene Expression and Development (BI 219) is designed to familiarize students with fundamental biological principles emphasizing DNA replication, transcription, translation, control of gene expression, and genomics. Gametogenesis, fertilization, early embryonic development, sex, and reproduction are considered in light of the molecular mechanisms involved. The laboratory experiments give students hands-on experience with various aspects of molecular biology and development. Towards the end of the semester developmental stages of sea urchins (blastula, above) and chicken (embryo, below) are observed under the microscope.



Contributed by Dr. Onken

PUBLICATIONS

Onken, H., Patel, M., Javoroncov, M., Izeirovski, S., Moffett, S.B. & Moffett, D.F. (2008, in press). Strong alkalization in the anterior midgut of larval yellow fever mosquitoes (*Aedes aegypti*): Involvement of luminal Na⁺/K⁺-ATPase. *Journal of Experimental Zoology*. Accepted for publication in October 2008.

Onken, H., & Moffett, D. F. (2008, in press). Revisiting the cellular mechanisms of strong luminal alkalization in the anterior midgut of larval mosquitoes. *Journal of Experimental Biology*. Accepted for publication in November 2008.

PROFESSIONAL MEETINGS

CONTRIBUTIONS

Dellas, G., Modica, T., Khanna, N., Marin, A. Corbo, C. & Cook, H. (2008). Preparation of Thin Sections of *Drosophila* Ovaries for Examination by Transmission Electron Microscopy. 41st Annual Fall MACUB Conference.

Izeirovski, S., Moffett, S. B., Moffett, D. F. & Onken, H. (2008). The anterior midgut of larval yellow fever mosquitoes (*Aedes aegypti*): Effects of hemolymph-side or luminal nutrients on the transepithelial voltage and strong alkalization. 41st Annual Fall MACUB Conference.

Rogers, R. & Moorthy, A. S. (2008). The study of chromosomal aberrations in *Vicia faba* as a result of exposure to UVA and UVB radiation. 41st Annual Fall MACUB Conference.

Capelli, C. (2008). Gender Differences Caused by Urinary Creatinine Adjustments Made to Heavy Metal Measurements. 41st Annual Fall MACUB Conference.



Husic, J., Mosher, R. & Palestis, B. (2008). Determination, Sex Ratio, and Hatching Order of *Sterna hirundo* Chicks. 41st Annual Fall MACUB Conference.

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 24, 2009.

RECOMMENDED

Dr. Onken recommends reading "The naked Ape", a book first published by Desmond Morris in 1967. The author, a British zoologist and ethologist, is also known as a surrealist artist. In a trial to fuse his work as an artist and zoologist he curated the paintings by a young chimpanzee called Congo.

"The naked Ape" offers an unabashed look at the human species, focusing on the animal-like qualities of humans and their similarity with apes. It explains human behavior as an evolution to meet the challenges of prehistoric life as a hunter-gatherer.



ALUMNI

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!

WANTED

ASSISTANT EDITORS

Collaborating as an Assistant Editors for the LIMULUS is fun and certainly expands your resume. We are looking for two students (freshman, sophomore or junior) who are interested to invest a little time, some effort and many ideas to further develop and improve the LIMULUS. If you are interested, contact Dr. Onken or Mrs. Rollizo.

MISCELLANEOUS

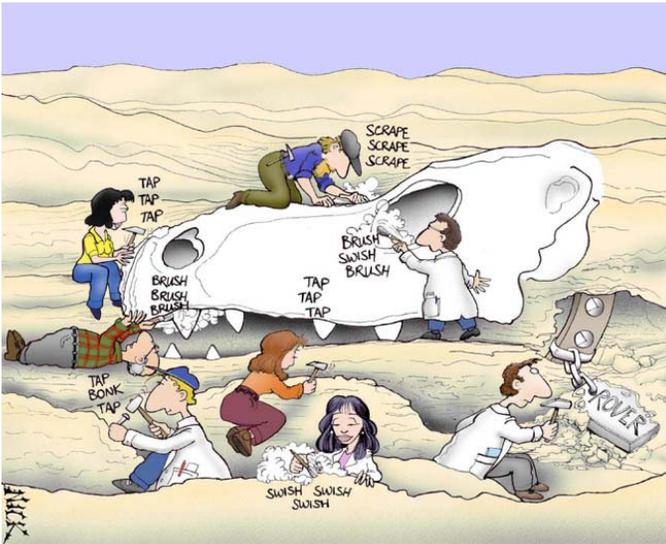
If your contribution does not fit in any of the sections above, you can post it here.

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



PUZZLES, JOKES, QUOTES, CARTOONS

CARTOON:



(From www.lab-initio.com)

IMAGE OF THE MONTH:



©WildMadagascar.org

Found at <http://rainforests.mongabay.com>

Uroplatus fimbriatus gecko on Nosy Mangabe, a small island reserve located in Antongil Bay about 2 km offshore from the town of Maroantsetra in eastern Madagascar.



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 editorial board reserves the 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, January 26



FROM

The Editorial Board:

Editor: Dr. Horst Onken

Assistant Editor: Stephanie Rollizo, Department Secretary

Student Assistant Editor: N.N.

Student Assistant Editor: N.N.