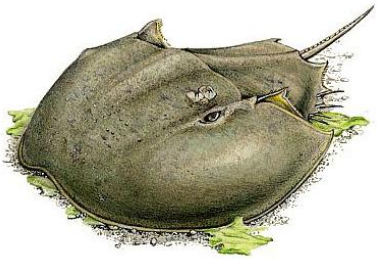
Limulus



NEWSLETTER

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

Volume 2010, Issue Spring-01 **January, 2010**

LETTER FROM THE EDITOR

Welcome back and all the best wishes for 2010! As always in the beginning of a semester, also the January Limulus is a magazine-style newsletter that summarizes the last semester. Here we reprint the major parts of the issues from September, October, November and December. Everybody can use this newsletter to refresh memories, and transfer students and other newcomers can get an impression about what is going on in the Department of Biological Sciences at Wagner College.

There is one new piece of information to which I want to draw your special attention: **See our summer course offerings on page 2!**

Dr. Horst Onken

The Editor

BIOLOGY STAFF AND FACULTY NEWS

GREENHOUSE AND GARDEN

At the last department meeting, Dr. Onken was elected to be the coordinator for greenhouse and garden. The greenhouse will be restructured to house a plant diversity exhibition. Apart of the exhibition, bench space is offered for classes held in the Department of Biological Sciences. Forms and Functions of Life (BI 217) will study the influence of plant hormones in spring 2010. Microbial Ecology (MI 523) will investigate plant-microbe symbiosis and phytopathogenesis. Depending on the remaining space, students who want to do their Experiential Component of the Senior RFT may reserve space for their research project through Dr. Onken. Any students from outside the department who want to use the greenhouse or to participate in the greenhouse maintenance should contact Dr. Onken.

Most of the planters in the garden besides the powerhouse have been cleared for winter. Some work still remains to be done and students are welcome to participate in these efforts. For spring 2010, it is planned to convert the planters in a theme garden that could be used for classes in the fall.

Contributed by Dr. Onken.

BIOLOGY PROFESSORS RECEIVE HONORS AT FACULTY AWARD DINNER

The faculty awards dinner took place on Tuesday, November 17th. The Biology Department's very own Dr. Onken and Dr. Cook were both honored at this dinner.

Dr. Onken was awarded the Faculty Award for Exceptional Performance in the Area of Scholarship. Dr. Onken began

teaching at Wagner only three years ago, but has made tremendous contributions to the Biology Department, particularly by expanding research opportunities for undergraduate students. Dr. Onken research deals with mosquitoes, and he has been published in six times in scientific journals while at Wagner. Dr. Onken has inspired students and faculty to realize that research in an important part of the learning process, and his accomplishments have helped the Biology Department grow.

Dr. Cook was awarded the Teaching with Technology Award. Dr. Cook incorporates a variety of technological resources into the majority of the courses that she teaches. In today's world, students need to be better acquainted with technology in order to compete with others, and Dr. Cook continues to prepare her students for the rapidly changing and technological advance world. Many of the assignments and learning tools that she uses are technology based, and she has even made use of new and improved technology in her molecular cell research. Congratulations Dr. Onken and Dr. Cook!

Contributed by Nidhi Khanna (information, including photographs, was compiled from the Wagner Website)

BIOLOGY LC RECIEVES SPECIAL RECOGNITION

Dr. Stearns and Dr. Houlihan are teaching an LC together called "Bacteria, Human Health, and Survival." In accordance to the Wagner Plan, students in learning community must complete an experiential component, which requires students to complete 30 hours of community service. Students in Dr. Stearns and Dr. Houlihan's LC have been teaching middle-school students in local schools about bacteria and hygiene. Wagner students made presentations to the middle-school students about "good and bad bacteria" and also told the youngsters about the importance of maintaining good hygiene. The LC was recently featured in an article in the *Staten Island Advance.* To view the article, please visit the following link: http://www.wagner.edu/news/sites/wagner.edu.news/files/091125%20Advance%20%28Diane%20Lore%29%2C%20Outreach%20by%20college%20students%20%28WEB%29.jpg. *The information for this article was provided from the Staten Island Advance.*

Contributed by Nidhi Khanna

CURRICULUM NEWS

2010 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 17-May 28 (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/MI 213/213L Cells, Genes, and Evolution. Session B (Biology and Microbiology majors, Pre-health students)
BI 335/335L Natural History of the Mid-Atlantic States. Runs May 17-May 28 (Biology majors and Environmental Studies minors)
BI/MI 400E Experiential Component of the Senior RFT. Session A (Biology and Microbiology majors)
MI 109 Plagues, Outbreaks and Biological Warfare. Session B (Non-science majors)
MI 200/200L Microbiology. Session A (Microbiology, Nursing, and Physician Assistant majors)
MI/BI 517/517L Electron Microscopy. Session A (Microbiology and Biology majors and Microbiology graduate students)
MI 615/615L Electron Microscopy. Session A (Microbiology graduate students)
MI 797, 798, 799 Research. Session A (Microbiology graduate students)

BIOLOGY CLUB NEWS

The Biology Club had a successful first meeting. The next meeting will be held on MONDAY OCTOBER 5TH at 9pm, location TBD. Individuals who wish to be part of the Biology Club should contact the president of the Biology Club Cassie Bray. (Cassandra.bray@wagner.edu)
If current members are unable to attend the next meeting, they must contact the secretary of the Biology Club Melissa Alvarez. (Melissa.alvarez@wagner.edu) If students fail to contact Melissa about their absence, they will no longer be listed as members of the Biology Club. The club discussed several important things at the meeting.
The club plans to complete their off-campus community service event at the reservoir located on Arthur Kill Road. Members will clean up trash at the reservoir on either a Sunday morning or afternoon. This event will take place in November. Details to be followed shortly.
For the next meeting, Cassie is encouraging members to suggest a good on-campus community service opportunity. At the last meeting, members were also considering buying club t-shirts. Cassie would like members to think of creative ideas to bring to the next meeting as well.
On Sunday, October 18th(tentatively) the Biology Club will hold an event at the Bodies Exhibit on the South Street Seaport. This is a campus-wide event and all are invited to attend, but you must act fast! Only 25 seats are available and the part of the ticket will be covered for by the Biology club's SGA budget.
The Biology Club is thinking about having movie nights on campus. At the next meeting, members will discuss further details. Members will address more issues, but these four issues are currently the highest priority.
Contributed by Nidhi Khanna (information was complied with the help of Cassie Bray and Melissa Alvarez)

The Biology Club had a meeting on October 19th, and discussed a variety of issues. Members of the Biology Club participated in the annual Breast Cancer Walk that takes place in Clove Lakes Park. The club will be doing their on-campus community service event on Tuesday November 10th. The event is intended to raise awareness about animal cruelty. Members of the club will display a poster about animal cruelty in the union that day during lunchtime. Donations that go towards raising awareness about animal cruelty will be collected during lunchtime as well. The club will host a showing of an Animal Planet movie that all members of the Wagner community are invited to attend. The film will be shown at 8pm on November 10th, with location TBD.
The Bodies Exhibit trip at the South Street Seaport will take place on November 22nd. All Wagner students are welcomed to attend. Participants should be advised to meet everyone at the 10:40am shuttle. Fliers will be distributed in the following weeks and there will be a sign up sheet as well. Only 25 participants may attend, and several members of the club are already planning to attend, so act fast!
The next meeting will be on Monday, November 2nd at 9pm in the lobby of the 4th floor in Haborview Hall. Please contact the Biology Club president Cassandra Bray (Cassandra.bray@wagner.edu) if you have any questions.
Contributed by Nidhi Khanna and Cassandra Bray
Biology Club sponsored a table in the Union raising awareness about animal cruelty on November 17th. Biology Club members encouraged people from the Wagner community to donate money to that would help save animals from abusive owners. Members also gave out free bags of candy that included startling facts about animal cruelty.

Victor Stora, Jessica Cozzolino, and Michael Migliorini help out at the Animal Cruelty table.
Contributed by Nidhi Khanna

TRI-BETA NEWS

Welcome new members and welcome back returning members of Tri Beta!

My name is *Jessica* Cozzolino and I am the secretary of Tri Beta this year. I will be sending everybody the minutes after each meeting and will keep you all updated with any Tri Beta activities.

For our off-campus community service activity we will be participating in the **Breast Cancer Walk** taking place on *Sunday, October 18, 2009* at Cloves Lakes Park (1150 Clove Road, Staten Island, NY.) If you will be participating in this event please email the president of Tri Beta Yolana Fuks @ Yolana.Fuks@wagner.edu

We were also considering getting team Tee shirts for this event. So if you are interested or have any ideas you can email Yolana.

For our on campus community service, we will be participating in the **Haunted Hallways event**. In this event we get our own room in main hall and we decorate the classroom for Halloween. Children from around the area will come to Wagner College to see our displays. We are not sure of the exact date for this yet (most likely the weekend before Halloween), but I will keep everyone updated. We can also dress up for this event according to our room theme.

Our next meeting will take place one day in the week prior to the Breast Cancer Walk on October 18, 2009.

Feel free to E-Mail me with any questions.

Have a great day and see you all at the next meeting =)

Contributed Jessica Cozzolino

Tri-Beta held their last meeting on Monday October 14th. Members completed their off-campus community service by participating in the Breast Cancer Walk that took place in Clove Lakes Park. Despite the gusty winds, and treacherous rain, many members of Tri-Beta went to the Breast Cancer Walk to support a good cause.

Tri-Beta also completed their on-campus community service for this semester. Members dressed up in Halloween costumes and participated in the Haunted Hallways event on Sunday October 25th. Haunted Hallways is an event that is open to the public (people outside of the Wagner community) and takes place annually. The Marketing Club sponsors the event, and various clubs and organizations are allowed to rent a room in Main Hall. Each club is permitted to decorate their rooms and participants are encouraged to dress up in Halloween costumes. Children from all over Staten Island come to Main Hall and go "trick or treating" in all of the rooms, and Wagner students give them candy along with a good scare.

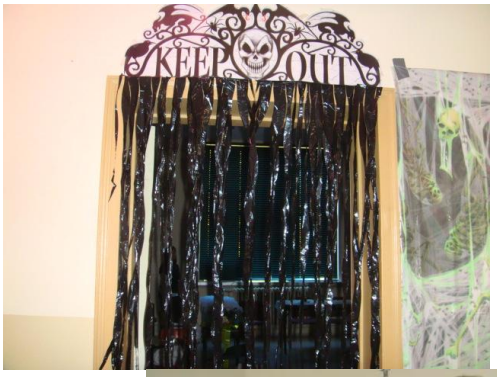
Members of Tri-Beta decided to have a "Mad Scientist" theme for their room. Students used skeletons and a variety of organs from the Biology laboratories. The event was an overall success.

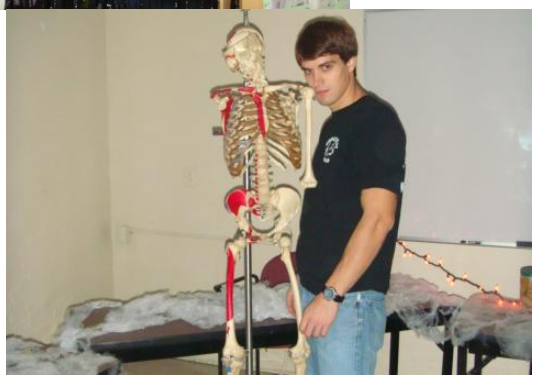
Contributed by Nidhi Khanna

The members of Tri-Beta have been extremely busy towards the end of this semester. They completed their on and off-campus community service, and pictures from both of these events are featured below. Everyone is excited that winter break is approaching, and they are looking forward to a new semester filled with more fun activities and community service!

Contributed by Yolana Fuks

Pictures from Haunted Hallways contributed by Yolana Fuks:



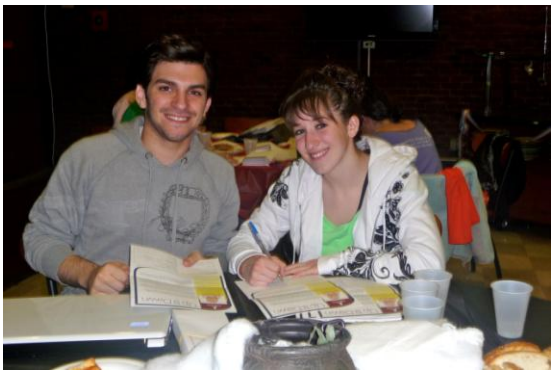


Pictures from Breast Cancer Walk contributed by Shannon O'Neill:

Contributed by Nidhi Khanna

PRE-HEALTH SOCIETY

The Pre-Health Society participated in two on-campus community service events this past month. Members took part in the letter writing campaign that thanked soldiers for the sacrifices that they were making overseas. Members also participated in the Up 'Til Dawn event that occurred on November 18th. Up 'Til Dawn is also a letter writing campaign that helps raise money for St. Jude's Research Hospital. The Pre-Health Society had a great turn out for both of these events!



Victor Stora (Pre-Health Society Treasurer) and Jessica Cozzolino (Pre-Health Society's Pre-Veterinary VP) write letters at Up 'Til Dawn.

Contributed by Nidhi Khanna

OPPORTUNITIES

COMMUNITY SERVICE OPPORTUNITY

Greetings Everyone,

I am Nidhi Khanna and I am currently a junior. 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 semester. If anybody is interested in helping out, please feel free to contact me at 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

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

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Contributed by Nidhi Khanna

IT'S SO EASY

I recently attended the talk given at Wagner by the Environmental Author, Robert K. Musil. In his talk, he encouraged students who are concerned about environmental issues to try to engage with policy makers. I want to share a way to do that that I have discovered that takes very close to zero effort. There are several organizations like the Sierra Club, The National Wildlife Federation, the Nature Conservancy, and the League of Conservation Voters. They research and follow environmental legislative activity very closely, and advocate strongly for environmental conservation. If you get on their e-mailing lists, they will contact you whenever important environmental legislation is coming before the house or senate. They usually have a form letter that encourages the relevant decision-makers to vote for or against a bill and explains their reasoning. You can modify these letters, and sign by using a password. They know which decision-makers to send the letters to by your zip-code.

Sometimes you get some e-mail from them asking for donations, etc., which, as a "starving college student", you don't have to feel guilty about ignoring for now. You can tell that the letters really go to the politicians, because they almost always reply. Here is a link you can follow to sign up for the League of Conservation Voters:
https://admin3.getactive.com/lcv/join.html
Contributed by Professor Beecher

SCHOLARSHIP OPPORTUNITIES

Scholarship opportunities for sophomores and juniors are available from the Morris K. Udall Foundation (www.udall.gov) for the following categories:
1.) Students committed to an environmental career
2) Native American/Alaskan Native students interested in Native health care or tribal public policy

The scholarship is for $5000 and includes a mandatory 4-day conference in August. Honorary Mention awards are for $350. Any students interested in applying should contact Brian Palestis (bpalesti@wagner.edu).
Contributed by Dr. Palestis

WORK IN THE GARDEN

Students interested in collaborating in the greenhouse and/or garden during the spring of 2010 should contact Dr. Onken (horst.onken@wagner.edu).
Contributed by Dr. Onken

BE A LIMULUS ASISTANT EDITOR

Proficient student writers are invited to become assistant editors for the newsletter of the Department of Biological Sciences. If you are interested, please, contact Dr. Onken (horst.onken@wagner.edu).
Contributed by Dr. Onken

COMMUNITY SERVICE OPPORTUNITY

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Contributed by Nidhi Khanna

EXPERIENCES

VISIT TO THE BURGESS SHALE

This past July, I gave a lecture entitled, "Aliens in Rocks" at the Geoscience Foundation in Field, British Columbia, Canada. I gave it as a part of my assignments as a Solar System Ambassador for NASA/JPL. In addition, the following

day, I was an assistant guide on a 22 kilometer hike to the Walcott Quarry in Yoho National Park, where I was able to examine various invertebrate fossils dating back over 530 million years ago.

The rock formations in the Burgess Shale provide us with a "time machine", taking us back through the evolution of life on the Earth. Could the strange creatures found in these rock formations have, in a similar fashion, also evolved on other worlds within our solar system? Could they have traversed the vacuum of space and possibly "seeded" our planet back in time? The plethora of lifeforms seen at this world famous site and the famous book, "A Wonderful Life" written by Stephen Jay Gould, clearly proves that Darwin's theory of Natural Selection is a valid explanation of evolution. Although the hike up to the walcott Quarry was very strenuous, it was the most amazing experience of my life.

Contributed by Harold Kozak

OPOSSUM

On a very wet morning in June, what appeared to be a child's toy lay in a puddle on the steps behind the Megerle Science Building. On closer inspection, I realized something was alive and moving! With the rain coming down, I wrapped a tiny creature in tissue and brought it upstairs to my office in Biological Sciences. The heat from my hands had an immediate effect on the baby animal, which was still unidentifed. Using the internet, I realized it was a very small opposum, and as some time passed, it began to open its eyes and its shivvering stopped.

As the possum gained strength, it made a "hissing" sound, to perhaps communicate hunger. It licked little drops of water, and became quite active, crawling around in my hands. Using a heating lamp, I made a little spot for it to sleep while I worked. Later that day, I was able to contact the closest wildlife animal rescue group which was located in New Jersey. (The only wildlife rescue group in New York City is in

the Bronx, since the Staten Island wildlife facility closed over a year ago.). A wildlife rehabilitator named "Meg," told me she could take the stranded baby the next evening, which meant I was having a visitor that evening at home. Since possums are nocternal, I spent most of the night awake, feeding droplets of pedialyte (an electrolyte enriched water) to the baby animal. The next day the possum was in rather good health, sleeping soundly. That evening we drove to Meg's facility in New Jersey, and signed a New Jersey Fish and Wildlife document handing the little female over to the professionals. It turned out an odd looking circle on her abdomen was the beginning of a pouch, since possums are marsupials.

This week we received good news. Our little rescued Staten Island marsupial grew up among other orphaned opossums and was just released into the wild! In just three months, her wild life was given back to her to enjoy. Good luck, little one!

Contributed by Stephanie Rollizo

BI 217 CLASS VISITS SNUG HARBOR BOTANICAL GARDEN

Earlier this month, Professor Beecher took her Forms and Functions class to visit the Snug Harbor Botanical Garden. Fifteen enthusiastic students traveled with Professor Beecher and Graduate Assistant Zulmarie Franco to the Botanical Garden on a pleasant Wednesday afternoon.

Professor Beecher was teaching her class about photosynthesis and about plant forms and functions. The students were able to see an assortment of different plants at the Botanical Garden. As a current student in Forms and Functions, I learned from Professor Beecher that there are over 300,000 species of plants, and all plants are differing in their size and shape.

In many plant species, photosynthesis occurs in the leaves and students were able to see all kinds of leaves in a wide-ranging of plants species. The trip was an overall fun experience and allowed students to relate the knowledge they learned in class to the "real world." As a class, we were also supporting a local attraction that more Staten Island residents should appreciate. The Botanical Garden was established in 1977. For more information on the Botanical Garden, please visit (http://www.snug-harbor.org/horticulture.html).

Contributed by Nidhi Khanna

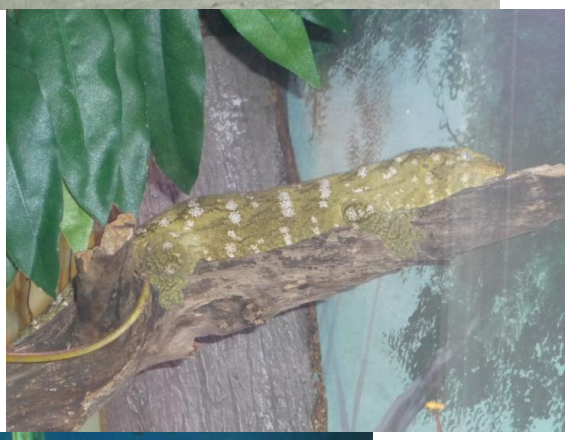
TRIP TO STATEN ISLAND ZOO

This semester, I am taking Forms and Functions with Professor Beecher. For one of our assignments, the class was asked to visit the Staten Island Zoo. Despite being a Staten Island native, I must admit that this was the first time I actually paid a visit to the zoo that literally minutes away from my home.

For my assignment, I was required to pick an animal that I found interesting and research about its biology and create a fact sheet. Even though I was supposed to write about one animal at the zoo, I was eager to observe the large variety of species in the zoo's botanical garden. At the zoo, visitors can learn about amphibians, birds, reptiles, fish, and other mammals. In 1936, the zoo was opened and it was actually the only zoo in the entire world to have 32 rattlesnakes. Even today, the zoo has an extensive collection of rattlesnakes and other snakes including Anacondas. Another interesting fact about the Staten Island Zoo is that it was the first American zoo to employ a female veterinarian to serve as the zoo's doctor.

The zoo's mission is to educate visitors about the importance of animals and to appreciate the existence of the wide-range of animals that nature has to offer. The zoo is currently constructing a few new attractions including a Leopard exhibit, Red Panda Exhibit, and a carousel for children to enjoy. Many activities at the zoo are centered around children, but adults and individuals of all ages can visit the zoo and learn something new! The zoo also started a Meerkat Project that is focused on renovating the homes of the meerkats that inhabit the zoo. People that are interested in supporting this project can donate money directly to the zoo. The zoo also offers opportunities to the public to volunteer and adopt animals. This month, the zoo is hosting a few events including a "Charles Dickens" themed event that includes caroling and lighting of the Christmas Tree. Another scheduled event includes a holiday breakfast with a visit from another animal that will make an appearance at the zoo, a reindeer. For more information about the zoo, please visit www.statenislandzoo.org.

A selection of photographs:



Contributed by Nidhi Khanna

VISIT TO THE MUSEUM OF NATURAL HISTORY

Recently, I paid a visit to the Museum of Natural History to do an assignment for Professor Beecher's Forms and Functions Class. I have visited the museum several times, but I learn something new during every visit. While at the museum, I wandered into the Primates, Dinosaurs, and Reptile and Amphibians exhibit.

Currently, the museum has a few new exhibits that seem very interesting and educational. The *Spider Silk* exhibit includes an elaborate silk textile that was created by over one million spiders! The spiders spun the silk for four years, and about 80 people in Madagascar collected the millions of spiders to make this textile. Men and women wove the silk after the spiders produced this extremely soft and strong silk. Every thread in the textile actually represents 96 strands of spider silk! Currently, the Museum of Natural History is the only place in the world that has a textile of the woven spider silk.

Another great new exhibit is *Frogs: A Chorus of Colors.* This exhibit will be open until January 3rd. The museum has an extensive exhibit of various frog species including Fire-bellied toads, Waxy Monkey Frogs, and the Blue Dart Poison Frog. The exhibit provides visitors with a lot of fun facts about frogs. It is definitely a treat to see a variety of frog species and the different colors that each species comes in. Many frog species are getting smaller and this is primarily due to climate change, and human involvement. Human activity has destroyed frog habitats and humans have polluted the areas that are inhabited by frogs.

The Museum of Natural History is a great place to visit, especially when you are trying to think of something fun to do in New York City. The museum always has new and interesting exhibits that are not only educational but fun to visit as well. During my visit, I took some pictures, and I hope you like them! For more information on the museum, please visit http://www.amnh.org/.

Some more photographs:

Contributed by Nidhi Khanna

PARTICPATION IN BLIND TASTE TEST

Professor Beecher's Environmental Biology class has been discussing several important environmental issues that affect the global community. Recently, the class started to do some research on various types of labels, like free trade, rainforest alliance, shade grown, and recycling. Some students gave individual presentations on specific labels and their meanings.

Free trade products are basically sold directly from the vender to the consumer. The government or other "middlemen" do not have any involvement with the buying and selling of the products. Products that have a rainforest alliance label are deemed acceptable by this non-governmental organization. In order to be rainforest alliance certified, farming methods that are harmful to ecosystems cannot be used, and workers growing the crops must be treated fairly, and their lives should not be in danger. Farha Rashid (a student in the class) did a presentation on Fair Trade products. She discovered that farmers who produce these products are paid a fair price and fair trade ensures that forced child labor is not used in the production.

Shade grown coffee is basically grown under a number of trees. The coffee is grown under the shade, and this is beneficial to the environment. When coffee is grown under the sun, many farmers use hazardous insecticides and chemicals. Recycling labels are identifiable by almost everyone, and these labels have been encouraging the public to reduce and reuse recyclable materials.

Several other students gave presentations on labels. Tyler discussed on Certified Naturally Grown labels. These labels are geared towards small local farmers and focus on farm-to-market values. Lawrence researched Pure Fun Organic Candy and realized that this kind of label ensures that workers are treated nicely, and organic products are used in manufacturing processes. Lynette, Peter, Jim, and Ayn worked together and learned about USDA Organic labels. In order for foods to obtain this label, the food must be produced in an environmentally sustainable manner. Hormones and relatively few pesticides are utilized.

After each student in the class researched a specific label, they shared their findings with the rest of the class. Students learned how farmers get certified for certain labels. Professor Beecher conducted a blind taste test, and she had students try to detect the difference between organic shade coffee and Dunkin Donuts coffee. Students were blindfolded, drank each kind of coffee, and then revealed to the class which coffee they preferred. Emily Pierce liked the shade coffee, Pete Westwood liked the Dunkin Donuts coffee, and James Lee was unable to detect any difference between the two coffee types. The class enjoyed drinking coffee during the rest of the class, and then spoke about different kinds of renewable energy technologies like wind, photovoltaics, and hydrogen fuel cells. To learn more about these labels, please visit the following websites:

http://www.naturallygrown.org/
http://www.organiccandy.com/
http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3004446&acct=nopgeninfo
http://www.transfairusa.org/

Contributed by Professor Beecher, The Environmental Biology Class, and Nidhi Khanna

EDWARD CALBRESE ABOUT HORMESIS

On a cold November night, Edward Calabrese, professor of toxicology and environmental science at the University of Massachusetts, came to inform students about the importance of the leading proponent of hormesis. Calabrese has published many papers on this topic, including several major review papers summarizing a large number of studies that have shown hormesis (where a substance that is inhibitory at high doses can be stimulatory at low doses).

Coincidently, this phenomenon has been the basis of many research projects at Wagner. A professor of Anatomy & Physiology, Dr.Fulop, along with his students have performed experiments on the effects of alcohol on zebrafish. Another professor in the biology department at Wagner College, Dr. Moorthy, has had students examine the effects of lithium chloride on zebrafish embryos and alcohol on Drosophila.

Dr. Calabrese explained this to us as "a response phenomenon characterized by a low dose stimulation and a high dose of inhibition." Early in his speech, it was stressed to us that the beneficial/harmfulness of hormesis should not be included into the definition. Basically, hormesis is the idea that a toxin will have an opposite effect in small doses as in large doses. Hormesis is a generalized phenomenon: independent of model, endpoint and agent.

When applying the phenomenon of hormesis, two possible responses that could be graphed are: J–shaped or inverted U-shaped. One area of study with hormesis is aging. Survival capacity depends on homeostatic ability and was studied with mild stressors. These mild stressors were shown to have anti aging effects. Mild stressors included heat shock, irradiation, hyper gravity and food restrictions.

"The reasons for this reluctance to change are complex but can be traced in large part to the fact that toxicology has been, primarily, an applied discipline with the creditable goal of protecting health. Faced with a huge number of compounds to be tested, toxicologists therefore streamlined their processes to reduce the number of animals used per dose and the number of doses per experiment" stated Dr. Calabrese, in his effort to explain why hormesis was overlooked by toxology.

After grasping a greater knowledge on this topic, it still leaves the lingering question: why is the phenomenon of hormesis important? To Dr. Calabrese he stresses that it will change how radiation health experts, chemical toxologists, pharmacologists, high risk assessors, and physicians do their job. By applying this new way of thinking and approach to toxology, it may open new doors to many professions. Ultimately, the decision of if you would like to believe in hormesis is up to you.

Contributed by Lynsey Brandwein and Julianna Maniscalco

PEOPLE

NORMAN BORLAUG

The Father of Green Revolution

"Reach for the stars. Although you will never touch them, you may get a little stardust on your hands"

Norman Borlaug who died on Sept.12, 2009 at the age of 95 was the father of the Green Revolution. His work that led to the production of disease-resistant wheat varieties is credited with saving as many as a billion people from starvation world wide and ushering in the Green Revolution. He brought new agricultural techniques, new high-yielding seeds, and modern technology to the poor farmers in underdeveloped and developing countries and was awarded the Nobel Peace Prize for this. He is one of only five individuals to receive the Congressional Gold medal, the president's Medal of Freedom and the Nobel Peace Prize. The others in this distinguished category are Mother Theresa, Nelson Mandela, Martin Luther King Jr, and Elie Wiesel.

Born of Norwegian descent, Dr. Borlaug was raised in Cresco, a small farming community in northeast Iowa. His outstanding contribution and his greatest achievement has been his unending struggle to integrate the various streams of agricultural research into viable technologies and to convince political leaders to bring these advances to bear fruits for the less fortunate among us. He got a degree in forestry from the University of Minnesota and worked for the forest service for sometime. Later he came back to University of Minnesota and obtained his doctorate in plant pathology. In 1944, he participated in the Rockefeller Foundation's pioneering technical assistance program to Mexico. Part Scientist, part humanitarian, he realized that improved crop varieties are essential to solving world hunger. "Norman Borlaug saved more lives than any man in human history. His heart was as big as his brilliant mind but it was his passion and compassion that moved the world" said Josette Sheeran, executive director of the UN world Food Program.

Borlaug strongly believed that we need to employ technology and science to increase the food production to feed the hungry planet. He also recognized that the food production is seriously affected by diseases, global warming, a lack of agricultural infrastructure, absence of technology and [poor] government support. The world-wide financial melt down is also contributing to reduced funding and support for poor countries.

When Borlaug was born 95 years ago the world population was less than 1.5 billion, as opposed to the current figure of seven billion. As the population grows, we humans are faced with a choice: convert wilderness areas to farmlands or get existing farmlands to yield more. Either choice has serious consequences, the latter will reduce biodiversity but the former will have more devastating impact, as wilderness is a much needed habitat for wild life. Much as human existence is based on agricultural practices, it in essence an "unnatural practice", according to Borlaug, and its prime goal is to create food that we humans can eat in plenty. Humans have become very insensitive to the issues of Biodiversity and the plight of all creatures in this planet. Asked what the future holds Borlaug thinks that Genetically modified crops (GM crops) has the potential to become part of the solution , if we go in that direction with caution. Sustained global food security is essential for the survival of our species. Needless to say that we also need to make sure that this planet of ours with all its biodiversity also survives.

Contributed by Dr. Moorthy

OPINION

NEW BROOMS CLEAN WELL!

The above German proverb is often continued with "…, but old brooms know the corners." It means that new things may look good on the first glimpse, but old things can still be better on the second look. I would like to apply the long version to the new website of the college.

What a beautiful homepage we got. The slide show is very attractive, no doubt. However, in my opinion the entire rest of the new web design is a failure that generated and continues to generate a lot of work for IT and volunteers, like me, who spent extra time to update and improve parts of the website.

What had been wrong with the old website of the college? It had a beautiful design. It was well structured. It was easy to navigate through the pages, because of the drop down menu on the homepage. One click, mailport. One click, registrar. One click, … When navigating through our web pages, 80 percent of each upcoming screen was new, editable information. Apart of the slim bar at the top that identified the college, the general background was a shiny white: Easy to insert figures and photographs, no need to reconfigure the figure background. This supported volunteers to work on pages. Also the older version of drupal, our online html editor, was satisfying. I had just accustomed to use it. Admitted, the homepage had no slide show.

What is wrong with the new design? The structure of the website is basically unchanged, which is good. However, the drop down menu on the homepage is missing. Two clicks, mailport. Two clicks, registrar. Two clicks, … Even worse, the upper half of each and every upcoming screen is covered with a large top menu bar, showing four students strolling along the clock on Trautman Square, and a huge primary headline. This design moves the editable information on each page down: Scroll, scroll, scroll, … The background of the editable space is a light beige. Figures with white background, meant to be transparent, must be reformatted. The new drupal

evidently does not allow to use the three frame design pattern that some old department and faculty pages had, and IT had a hard time to wiggle them through the conversion.

True, we accustom fast. We are using our website daily, and ultimately we will just adapt to click and scroll faster. However, we are not the only users of our website. We have visitors who may come only once to see whether Wagner College is the right place for them. Our website is like our business card. It should be graphically attractive, of course. However, the information should be easily accessible. Even without the slide show the old website very well satisfied both purposes. Yes, I agree, the slide show is beautiful and may lure visitors in for more information. Click, and four students and the clock on Trautman Square greet. What a nice view, how attractive. Click, and four students and the clock on Trautman Square greet. Click, and four students and the clock on Trautman Square greet. When coming up again and again and again, this graphical component of our website is evidently too large and may be seen as a hurdle to reach the information visitors are looking for. Click, click, click. Scroll, scroll, scroll. I just hope our visitors do not x us out.

I have been making websites since 15 years. I had to learn numerous html editors, and I had a lot of trials and errors until I got results that halfway satisfied me. I browsed through the web a lot. How do others do it? In the last academic year, I spent many hours to improve the web pages of the department, inserting pages of our facilities like greenhouse and collections. I set up a very informative faculty page, highlighting my teaching, my research, my students, … I had pages with recommendations about mosquito prevention and protection, and I had started a project that displays the "Woody plants of Wagner College". All this work, of course formatted for the old web design, was destroyed, mainly because of the overlarge bar with the four students and the clock on Trautman square that appears now on every single page of the college website. Moreover, I do not yet know how to make web pages attractive, if the first 50% of each page is static. On top, I have again to learn a new version of an html editor. I am annoyed by the way how this was introduced, and I am discouraged to continue my voluntary efforts.

It would have been so easy to just place a slide show on the home page and leave the rest as it was.

Contributed by Dr. Onken

The Nobel Prize was established from the will and estate of Swedish chemist and inventor of the high explosive dynamite Alfred Nobel in 1895. Originally the prize money was to be shared by the ones chosen from the fields of Physics, Chemistry, Physiology or Medicine, Literature, and Peace. The first set of Nobel Prizes in these categories was given in 1901. The Nobel Prize in Economics was added to the list in 1969. The front side of the three "Swedish" medals (Physics and Chemistry, Physiology or Medicine, and Literature) is the same, featuring a portrait of Alfred Nobel and the years of his birth and death in Latin; the Economics and Peace Prizes have a different design. Up to 1980 the "Swedish" medals, each weighing approximately 200 g and with a diameter of 66 mm, were made of 23-karat gold. Since then they have been made of 18-karat green gold plated with 24-karat gold. To date more than 800 men and 40 women have been the recipients of this prestigious award. Of all the women who have won the Nobel, Marie Curie and Barbara McClintock have been exceptional in that Marie Curie has been honored twice, in 1903 with a Nobel in Physics and in 1911 with a Nobel in Chemistry. Barbara McClintock was the only woman in science to win this prize solo. This year has been exceptional in that five women have won the coveted price in Physiology or Medicine, Chemistry, Literature and Economics. That is a total of four fields out of six, which is quite remarkable.

Only 10 women compared to more than 500 recipients have won the Nobel Prize in the sciences. The fact that Nobels are given almost exclusively to academic researchers means that universities also share some responsibilities for this remarkable disparity. In the early days of the Nobel, laws and parental oppositions prevented many women from entering universities. In the United States women could get a university education, but no job. Until the 1970s, many leading research universities and technological institutes were only for men. To teach in women's colleges and coeducational universities American women were expected to stay single. Barbara McClintock, the Nobel Prize winning geneticist was a few years from membership in the National Academy of the Sciences when her boss at the University of Missouri threatened her in 1936 saying, "If you ever marry, you will be fired." McClintock stomped out planning to become a weather forecaster, until she found a job in a private college (from "Feeling for an Organism" biography of McClintock). Even today women scientists find it very hard to get that final promotion to a "FULL PROFESSOR" in American Academia. In 1971 a law was passed requiring universities to hire women into their faculties or risk losing federal dollars. Dr. Mary-Lou Pardue, who now holds a chair in Microbiology and is a member of the National Academy of Sciences, says this in recounting the story of her hiring. "When I applied for a position at MIT, MIT's response was 'Thank you for your letter. We have had hundreds of responses to our ad'." Women scientists even today face subtle discrimination. Communications can be complicated. As Pardue puts it, "you can't go up to a man at a meeting and say 'let us have a drink, and I will tell you about my science' without getting more than you bargained for." It is those honest sincere networking connections that men are privileged to that women hope and wish for but never get.

Being a full professor in a small Liberal Arts College in the field of Genetics, I have pondered over this question and here are my thoughts. I am the only female fulltime professor in the sciences in the college that I teach. "X" is the symbol for the unknown and we women have two of those Xs where as the men have only one. I wonder whether that has anything to do with it. From a genetics point of view that cannot be true,

because I know that we have more genes on two of our X chromosomes than the men with an X and Y. The Y chromosome is such a small chromosome compared to the X and there are only very few genes on the Y. We know women in general live longer and are better multi taskers compared to men. So why is it that there is such a tremendous discrepancy? Only thing I can think of is that, societal, economical and other reasons contribute to this problem. It is very refreshing to see that these stereotyping and taboos are slowly melting away. This year has been a remarkable year for women in terms of winning the Nobel Prize and I want to applaud these winners.

Dr. Elizabeth Blackburn, Morris Herztein Profes-sor of Biology and Physiology in the Department of Biochem-istry and Biophysics at the University of California is a leader in the area of telomere, telomerase research. Dr. Carol Greider, the co-winner of this award is a Professor at Johns Hopkins. The molecular nature of telomeres, the end of eukaryotic chromosomes that serve as protective caps essential for preserving the genetic information, and the ribonucleoprotein enzyme, telomerase and the roles they play in aging and development of cancer was the riddle that these scientists have been working on for the last several years.

Dr. Ada E. Yonath won the Nobel Prize along with two other scientists for her work on Ribosomes, the cell's most multifaceted machine, at the molecular level. She is a distinguished scientist from the Weizmann Institute of Science, Rehovot, Israel. Ribosomes, found in the cytoplasm of the cell are involved in protein synthesis. Proteins and enzymes are made based on the blue print information carried in the DNA. Proteins and enzymes in turn control the chemistry of all living organisms. As Ribosomes are crucial to life they are also target for new antibiotics. An understanding of the innermost working of the Ribosomes is important for the scientific understanding of life. This knowledge can be put to practical and immediate use, since many of today's antibiotics cure various diseases by blocking the function of bacterial Ribosomes.

Herta Muller, winner of the Nobel Prize in literature was born in the German-speaking town of Nitzkydorfmin Banat, Romania. Muller made her debut with a collection of short stories, "Niederungen," which was censored in Romania. She published the uncensored version in Germany. The same year she also published "Druckender Tango" in Romania. In these two works Muller depicts life in a small German speaking village, and the corruption, intolerance and repression to be found there.

Elinor Ostrom became the first woman to win a Nobel Prize in Economics along with fellow American Oliver Williamson for analyzing economic governance: the rules by which people exercise authority in companies and economic systems. Ostrom is a political scientist at Indiana University who showed how common resources like forests, fisheries, oil fields and grazing lands can be managed successfully by the people who use them rather than by the government or private companies.

What 2009 has proved to us all is that given enough encouragement and equal chances, women can be just as successful as men. Stereotyping individuals and excluding opportunities for success to any group based on gender, race or other criteria should be a thing of the past.

Contributed by Dr. Moorthy

PUBLICATIONS

Etinger Etinger, A., Lebron, J. & **Palestis, B. J.**. (2009, in press). Sex-assortative shoaling in zebrafish (*Danio rerio*). *Bios*.

Izeirovski, S., Moffett, S. B., Moffett, D. F. & **Onken, H.** (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*.

Izeirovski, S., Moffett, S. B., Moffett, D. F. & **Onken, H.** (2009). The anterior midgut of larval yellow fever mosquitoes (*Aedes aegypti*): effects of amino acids, dicarboxylic acids, and glucose on the transepithelial voltage and strong luminal alkalinization. *Journal of Experimental Zoology* **311A**: 719-726.

Jagadeshwaran, U., **Onken, H.**, Hardy, M., Moffett, S. B. & Moffett, D. F. (2009). Cellular mechanisms of acid secretion in the posterior midgut of the larval mosquito *Aedes aegypti*. *Journal of Experimental Biology* **213**: 295-300.

Lamb, C. M., Moorthy, A. S., Corbo, C.P. & Fulop, Z. L. (2009). Teratogenic effects of lithium chloride on eye development in early embryogenesis of Zebrafish (Danio rerio). In Vivo 31(1): 24-31.

Moffett, D.F. and **Onken, H.** (2009, *in press*). The Cellular Basis of Extreme Alkali Secretion in Insects: A Tale of Two Tissues. In: *Epithelial Transport Physiology* (ed. George A. Gerencser). Totowa, New Jersey: Humana Press.

Onken, H., & Moffett, D. F. (2009). Revisiting the cellular mechanisms of strong luminal alkalinization in the anterior midgut of larval mosquitoes. *Journal of Experimental Biology*. 212: 373-377.

Onken, H., Patel, M., Javoroncov, M., Izeirovski, S., Moffett, S.B. & Moffett, D.F. (2009). Strong alkalinization in the anterior midgut of larval yellow fever mosquitoes (*Aedes aegypti*): Involvement of luminal Na^+/K^+-ATPase. *Journal of Experimental Zoology*. 311A: 155-161.

Palestis, B.G. (2009). Fluctuating asymmetry in common tern chicks varies with hatching order and clutch size. *The Auk* 126: 815-822 **.**

Palestis, B.G. (2009). Use of artificial eelgrass mats by saltmarsh-nesting common terns (*Sterna hirundo*). *In Vivo* 30(3): 11-16.

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

Zaatari, D., **Palestis, B.G.** & Trivers, R. (2009). Fluctuating asymmetry of responders affects offers in the Ultimatum Game oppositely according to attractiveness or need as perceived by proposers. *Ethology*115: 627-632.

PROFESSIONAL MEETINGS

MACUB CONFERENCE COMING UP

DATE: September 28, 2009
FROM: Donald Stearns, Megerle II Professor of Biology, Department of Biological Sciences, Wagner College
REGARDING: 42nd Annual Metropolitan Association of College and University Biologists (MACUB) Conference, Kingsborough Community College, Saturday, October 24, 2009

Every year, the Metropolitan Association of College and University Biologists holds a fall meeting on a Saturday, for students and faculty interested in the biological sciences. This fall, the meeting will take place at Kingsborough Community College, Saturday, October 24th. Registration, continental breakfast, and exhibitor displays occur from 8:00 to 9:00 a.m., followed by a general welcome. This year's morning keynote address (9:15 – 10:15 a.m.) is titled *Pandemic Flu and Emerging Infectious Diseases*, given by Debra E. Berg, M.D., Medical director for the Healthcare Emergency Preparedness Program, Bureau of Communicable Diseases for the New York City Department of Health and Mental Hygiene. After this presentation, there will be exhibitor displays, poster presentations, member presentations, and concurrent workshops (11:15-12:30 p.m.), followed by a luncheon. This year's afternoon keynote address (12:30-1:30 p.m.) is titled *Catching Fire: How Cooking Made us Human*, given by Richard Wrangham, Ph.D., Ruth Moore Professor of Biological Anthropology at Harvard University. After this presentation, there will be more poster presentations and exhibitor displays (1:30-3:00 p.m.), followed by poster awards and an ice cream social (3:00-4:00 p.m.).

Students, faculty, and alumni: You are cordially invited to attend this event. For current students and faculty, your costs are covered by the Department of Biological Sciences, Wagner College. For others, the cost ranges from $35 to $55, depending on your position and timing of registration payment. For more information (including van transportation), please contact Ms. Stephanie Rollizo, Faculty Secretary, Department of Biological Sciences, Wagner College, at (718) 390-3103 or Stephanie.rollizo@wagner.edu.

Contributed by Dr. Stearns

MACUB CONFERENCE

On a rainy Saturday morning, a handful of Biology students and faculty traveled to Kingsborough Community College where the annual Metropolitan Association of College and University Biologists Conference was held.

The conference began with a keynote address made by Debra E. Berg, M.D. Dr. Berg is in charge of the Healthcare Emergency Preparedness Program in the Bureau of Communicable Diseases for the New York City Department of Health and Mental Hygiene. Dr. Berg gave a lecture that focused on both the seasonal flu and swine flu. She encouraged the audience to get vaccinated for both the seasonal flu and swine flu. Both vaccinations are available to the public now, and are also made with eggs. She advised individuals that may be allergic to eggs to seek professional consultation before receiving either vaccination. For more information about swine flu, please visit: http://www.cdc.gov/h1n1flu/vaccination/public/vaccination_qa_pub.htm.

Another keynote speaker at the conference, Dr. Richard Wrangham (Professor of Biological Anthropology at Harvard University), gave a lecture about his research focusing on how cooking has helped human beings evolve as a species. Dr. Wrangham claims that many primates devout most of their energy during the day just chewing up their food. According to Wrangham, cooking raw food enables humans to eat rather quickly and devout their time to other activities. Dr. Wrangham suggests that it is much easier to digest cooked food, and cooking is not only a social practice, but an important part of human evolution. For more information about this speaker please visit: http://www.harvardscience.harvard.edu/culture-society/articles/invention-cooking-drove-evolution-human-species-new-book-argues.

Wagner Professors, Dr. Stearns and Dr. Mosher gave a presentation together at a MACUB workshop. Dr. Stearns and Dr. Mosher spoke about the assessment program that Biology Department introduced in 2003. Senior Biology and Microbiology majors are evaluated in their final year at Wagner. Students take an assessment test and the faculty reviews these tests to see if students have an exceptional understanding of the material that students learn during their undergraduate careers. The results of these tests do not affect a student's overall grades.

Biology undergraduate students and Microbiology graduate students gave poster presentations of their research at the

conference. Senior Michael Gutkin (Biology Major) received acknowledgment at the conference. Gutkin was awarded best presentation for his paper that was titled, "Scanning Electron Microscopic Characterization of Structural Reorganization of the Adult Zebrafish Optic Tectum in Organotypic Culture." Professor Corbo, Dr. Fulop, and Professor Raths all advised Gutkin with his research. The Limulus staff would like to congratulate Mike and all of the other Wagner students who participated in this prestigious conference.

Ten other students gave presentations. The names of the students and the titles of their research are below:

Yolana Fuks (senior biology major, chemistry minor) and Melanie Valencia (sophomore): **"Electrophysiology of the Isolated and Perfused Midgut of Adult Yellow Fever Mosquitoes (Aedes aegypti): First Results."** Research under the supervision of Dr. Horst Onken, with co-authors from Washington State.

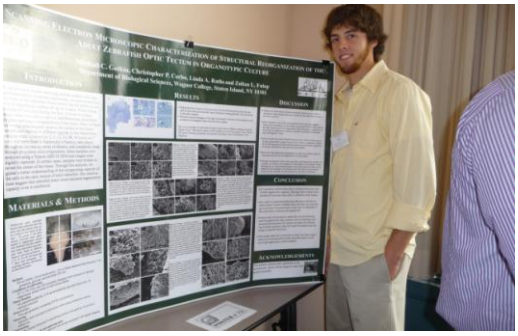
Lynsey Brandwein (junior psychology major, biology minor), Julianna Maniscalco (junior biology major) and Medije Mashkulli (junior biology major): "**Inhibition of Strong Midgut Alkalinization in Larval Yellow Fever Mosquitoes (Aedes aegypti) with HEPES Buffer."** Research under the supervision of Dr. Horst Onken, with co-authors from Washington State.

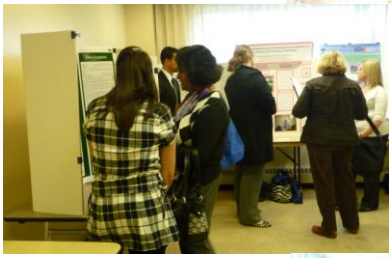
Anna Lysenko (junior psychology major, biology minor) co-authored on paper presented by Kingsborough student Luesoni Johnson: "**Use of Zebrafish Embryos in Undergraduate Education: Teaching Science and Scientific Research in an Easy Way.**" Research under the supervision of Prof. Christopher Corbo, Dr. Zoltan Fulop and Prof. Linda Raths of Wagner College, and Kristin Polizzotto of Kingsborough Community College.

Jessica Browning (graduate student in microbiology): "**Antibiotic-Resistant Salmonella Contamination of Mute Swan (Cygnus olor) Eggs in the Jamaica Bay Wildlife Refuge, Brooklyn and Queens, N.Y."** Research under the supervision of Dr. Adam Houlihan

Zulmarie Franco (graduate student in microbiology) and Marlene Streisinger (senior nursing major): "**Ultrastructural Characterization of Formed Elements in Peripheral Blood of Adult Zebrafish (Danio rerio**)." Research under the supervision of Prof. Christopher Corbo, Dr. Zoltan Fulop and Prof. Linda Raths

Contributed by Nidhi Khanna





"SEAHAWKS" PARTICIPATE IN WATERBIRDS CONFERENCE

The 33rd Annual Meeting of the Waterbird Society, a scientific organization dedicated to the study of marine and aquatic birds (http://www.waterbirds.org/), took place in Cape May, NJ, from November 4 through November 7. I attend this meeting in most years to present my research on the behavior and ecology of terns. The conference usually takes place in a good location to see birds and Cape May is certainly no exception. Although I enjoy the opportunity to travel to far away places (recent meetings have been in Barcelona and South Padre Island, Texas), the nearby location had the advantage that Wagner College was well-represented at the meeting.

I presented a paper on fluctuating asymmetry in common tern chicks. Fluctuating asymmetry is a measure of small deviations from perfect bilateral symmetry and can be used as a measure of stress during development or of "good genes". Microbiology Masters student Jusuf Husic gave a poster presentation on his work characterizing ecto-parasites on tern feathers (feather lice) and testing for the presence of pathogenic bacteria in tern chicks (so far he has found none). Coauthors on his paper include Microbiology professors Roy Mosher and Adam Houlihan and myself. Two undergraduate Biopsy-chology majors, Maleeha Memon and Ashley Nati, also attended part of the meeting. Ashley and Maleeha will be working in the field with me in the future, and they were able not only to learn about waterbirds but also to see what a scientific meeting is like.

Presentations by Wagner College authors are listed below:

Husic, J., R. Mosher, A. Houlihan, and B. Palestis. 2009. Evaluation for carriage of parasites and pathogens in common tern (*Sterna hirundo*) chicks. Presented at the Meeting of the Waterbird Society, 4-7 November, Cape May, NJ.

Palestis, B. 2009. Fluctuating asymmetry in common tern chicks varies with hatching order and clutch size. Presented at the Meeting of the Waterbird Society, 4-7 November, Cape May, NJ.

Ashley Nati and Maleeha Memon took these photos at Cape May Point State Park from the site of the Cape May Bird Observatory's hawk watch platform.
Contributed by Dr. Palestis

ALUMNI

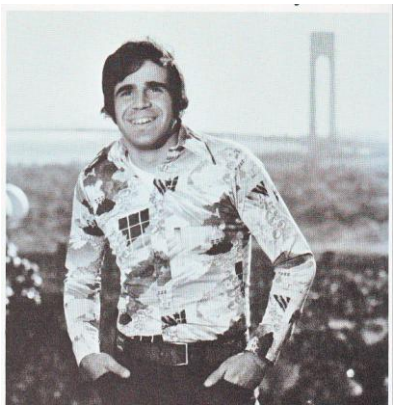
A response to the August Newsletter:

Subject: Thank you for the August newsletter

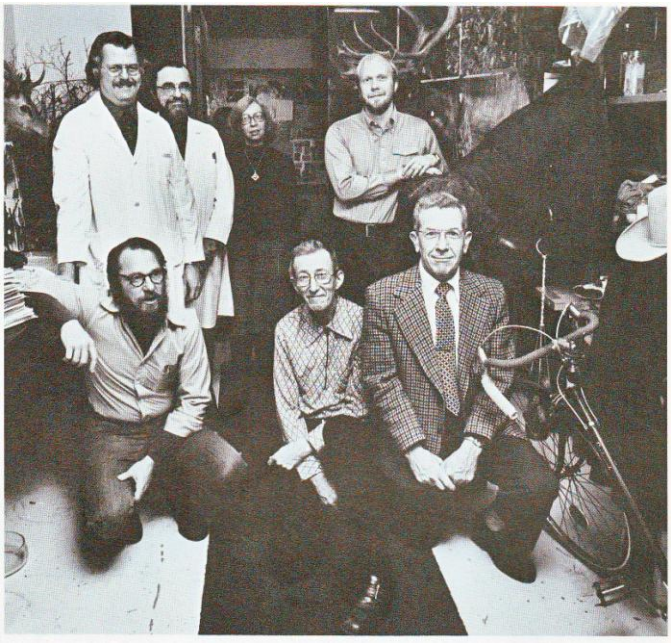
Dear Dr. Onken;
I wish to thank you for your recent copy of the Department of Biological Sciences August Newsletter. I am a member of the "Class of 1977". I enjoyed my time at Wagner and especially the guidance I received from Dr. Yarns (what an amazing individual) who always told me to pursue my dreams and ignor the obstacles which may arise. He was an individual who could easily step out of his role as professor and into his role as your friend and advisor. I took his advice and 2 years after graduation I earned a degree as a Physician Assistant (I guess Dr. Yarns was right about ignoring obstacles) and then onto a degree as a Podiatrist. While at Wagner I was never an "A" student but what I lacked in GPA I more than made up in determination and drive. I took the advice of Dr. Yarns and placed my focus on the goal. I am sure there are many students like myself who at times find course work demanding and difficult (How I remember, painfully, Organic Chemistry and Dr. Shultz) but I am proof that hard work and a clear focus on your goals can overcome any obstacle. There were days I would walk, well actually run, out of an especially difficult Organic Chem class, head on over to the "Hawks Nest" have a cup of coffee and Dr. Yarns would come by and sit down and proceed to tell me stories of his life, and some of these stories were truly amazing. This is what made the man special, he always had time for his students, he knew just what to say but more importantly he knew when to listen. He was always there throughout my entire stay at Wagner. I could pop into his office anytime and he would always greet me with a smile and a warm greeting. He was truly my friend.

I have a son, Nicholas, who graduated from Wagner College "Class of 2009" and is now a Graduate Student on campus. I hope he finds his own Dr. Yarns while at Wagner.
If there is anything I can ever do to assist you please do not hesitate to call on me. I will be more than happy to assist with academic advisement or any other project you request.
Tony Garofalo
Class of 1977

From the Yearbook of 1977:



Tony Garofalo in 1977



Biology Faculty in 1977

Standing: Walter Kanzler, Ralph Priddy, Anette Ruark, Charles Kiley. **Kneeling:** Dale Yarns, John Frohlin, Murvel Annan

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!

RECOMMENDATIONS

Dr. STEARNS RECOMMENDS PROJECT VOTE SMART
www.votesmart.org

If you seriously wish to become reliably informed as a voter regarding the positions of any U.S. candidate or elected official on practically any issue, I recommend www.votesmart.org. This web site is maintained in a fair, impartial manner by individuals representing all political persuasions. The web site is designed to educate—not persuade—the voter, "exposing the facts on over 40,000 candidates and elected officials" (p. 5, Project Vote Smart's *2008 Voter's Self-Defense Manual*). In an age where politicians are advertised to the public like consumer products, where most media outlets have replaced serious and thoughtful comparisons with sensationalized fluff, where bias is evident in newspaper editorials and most other web sites, where very few journalists provide deep comparisons, where television and radio programs often substitute heated opinion for fact, and where debates have morphed into venues where positions are promoted rather than debated, this web site is refreshingly informative. Using www.votesmart.org, you can identify the three congressional members who represent you on Capitol Hill (the two senators who represent your state and the member of the House of Representatives who represents the district where you live). For each politician, the web site provides the individual's voting record, background, positions on different issues, speeches and public statements, campaign contributions, endorsements, and interest group ratings, among other things.

PUZZLES, JOKES, QUOTES, CARTOONS

CARTOONS:

Cartoon from www.lab-initio.com

Cartoon from www.lab-initio.com

JOKE:

There was this biologist who was doing some experiments with frogs. He was measuring just how far frogs could jump. So he puts a frog on a line and says "Jump frog, jump!" The frog jumps 2 feet. He writes in his lab book: 'Frog with 4 legs - jumps 2 feet'.
Next he chops off one of the legs and repeats the experiment. "Jump frog jump!" he says. The frog manages to jump 1.5 feet. So he writes in his lab book: 'Frog with 3 legs - jumps 1.5 feet'.
He chops off another and the frog only jumps 1 foot. He writes in his book: 'Frog with 2 legs jumps 1 foot'.
He continues and removes yet another leg. " Jump frog jump!" and the frog somehow jumps a half of a foot. So he writes in his lab book again: 'Frog with one leg - jumps 0.5 feet'.
Finally he chops off the last leg. He puts the frog on the line and tells it to jump. "Jump frog, jump!" The frog doesn't move. "Jump frog, jump!!!" Again the frog stays on the line. "Come on frog, jump!". But to no avail. The biologist finally writes in his book: 'Frog with no legs - goes deaf'.
From: mwriggle#NoSpam.uoguelph.ca (Michael Wriggles-worth) posted at: http://www.xs4all.nl/~jcdverha/scijokes/

A biology professor was addressing his class, wanting to see if they'd read the assigned text.
Professor: Miss Smith, please stand. What part of the human body increases ten times when excited?
Miss Smith blushes and hesitates and giggles.
Professor: Miss Smith, please sit down. Miss Jones, please stand and tell me if you know what part of the human body increases ten times when excited.
Miss Jones: Yes, Professor. It's the pupil of the eye.
Professor: Very good. Thank you Miss Jones, you may sit down. Miss Smith, will you please stand again. I have three things to say to you.

1. You have not done your homework.
2. You have a very dirty mind.
3. You're in for a big disappointment.

QUOTES:

"We know very little, and yet it is astonishing that we know so much, and still more astonishing that so little knowledge can give us so much power." *Bertrand Russell (1872-1970) English philosopher, mathematician.*

"If your experiment needs statistics, then you ought to have done a better experiment." *Ernest Rutherford (1st Baron Rutherford of Nelson) (1871- 1937) English physicist, born in New Zealand. Nobel prize for chemistry 1908.*

"No effect that requires more than 10 percent accuracy in measurement is worth investigating." *Walther Nernst (1864-1941) German physicist, chemist. Nobel prize, 1920.*

"Basic research is what I am doing when I don't know what I am doing." *Werner Von Braun (1912-1977) German rocket engineer, in U. S. after 1945.*

"Genius is one percent inspiration and ninety-nine percent perspiration. " *Thomas Alva Edison (1847-1931) U. S. inventor.*

Quotes from: http://www.lhup.edu/~dsimanek/sciquote.htm

POETRY:

From: news:bionet.microbiology --by someone signing as Yersinia

A Mad Scientist Christmas

Twas the night before Christmas and all thru my house,
Not a specimen was stirring, not even a louse.
The test tubes were capped and the rat cages closed,
The mold cultures fuzzy, the mice in repose.
The oven kept warm the ebola and pox,
I still need to locate my husband's clean socks...
But that has to wait till tomorrow, I know;
My buggies still need that much more time to grow.

When from the kitchen came a massive explosion,
I leapt from my bed in perpetual motion.
Grabbing my lab coat I pulled on my pants,

Struggling into them a sick sort of dance.
With fury and haste I put on a shirt,
Running out of the bedroom on feet black with dirt.
Buttoning my lab coat and donning a mask,
I ran into the kitchen holding an Erlenmeyer flask.

I nearly passed out when the man who I saw,
dressed in containment gear sealed without flaw,
Held high a huge sack with his arm stiff and straight,
I could tell he must have a hard time with his weight.
Through the mike from his suit he said without pause,
"Ho Ho Ho, Merry Christmas, I'm Hanta Claus!"
Over his shoulder he hefted the sack,
We walked into the living room, I offered a snack.
He took it and smiled, placed the sack by my bench,
Instantly I noticed the Clostridium stench.
Brimming with joy, I cried out with glee,
"Did you bring all of these germies for me?"
"Oh yes," said Hanta, "I must show propriety;
By bringing you microbes, I'm saving society.
"You are the only one who loves these diseases.
Therefore I'm glad to oblige who it pleases."

Delirious with excitement I sat by his side
While he gave me a year's stock of microscope slides,
And pasteur pipettes, drug resistant bacteria,
Such as staph, strep and cultures from the genus Neisseria.

The gleam in my eyes caused the house to be lit,
The moment he gave me a gram-staining kit,
Clostridium tetani, perfringens and sporogenes,
Salmonella typhi and Streptococcus pyogenes!
Plus viruses known to produce hepatitis,
Herpes, and rabies, yellow fever and meningitis!
But that was not all, he had parasites too,
Plasmodia, trypanosomes and schistosomes true!
Tapeworms and roundworms, plague-carrying fleas.
How sincerely generous, Hanta did aim to please!

At long last he said he must now go away,
His sled was experiencing radioactive decay.
"Thanks for the presents," I said, shaking his hand,
"They'll keep me off the streets, you understand."

Hanta Claus smiled and bid me goodnight,
Shouting "Merry Christmas to all, and to all a good blight!"

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 deadline for submission of a contribution is the 20th of the month. Contributions received later may or may not be considered.

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

Editing may involve to publish 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.