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

Volume 2009, Issue Fall-02 September, 2009

LETTER FROM THE EDITOR

The Fall semester 2009 is well on its way. Everybody is busy teaching and learning. Although only one month passed, there is already something to report in our newsletter: Our student clubs announce their activities, opportunities to engage, summer experiences, Dr. Moorthy opens a new section – PEOPLE- with an essay about Norman Borlaug, a critical OPINON about our new web design, the announcement of a professional conference in October, and a letter by an alumn very worth to read. The current newsletter is rounded with the usual cartoon, accompanied by a joke and some science quotes. I hope you enjoy reading the October LIMULUS.

As announced in the September newsletter, we are planning a special issue on Dr. Kanzler, a former faculty member who passed away on Friday, June 26. Again, I would like to ask all current and former faculty, as well as all alumni who knew Dr. Kanzler to send me memories, anecdotes, photographs or other possible contributions to the special issue. The deadline is coming up rapidly: Please send your contribution for the special issue until Monday, October 12. I may contact some of you under separate cover.

Dr. Horst Onken

The Editor

BIOLOGY STAFF AND FACULTY NEWS

EVERYBODY IS BACK AND BUSY More in the October LIMULUS.

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)

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

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

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



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

EXPERIENCES

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*

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 niques, new highyielding 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



PUBLICATIONS

Etinger, A., J. Lebron, and **B.G. Palestis**. (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, in press). 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*, published online, DOI: 10.1002/jez.561.

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

Palestis, B.G. (2009, in press). Use of artificial eelgrass mats by saltmarsh-nesting common terns. *In Vivo*.

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

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

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

ALUMNI

A response to the August Newsletter:

Subject: Thank you for the August newsletter

Dear Dr. Onken;

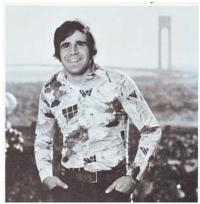
I wish to thank you for your recent copy of the Department of Biological Sciences August Newsletter. I am a member of the "Class of 1977". I enjoyed my time at Wagner and especially the guidance I received from Dr. Yarns (what an amazing individual) who always told me to pursue my dreams and ignor the 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.

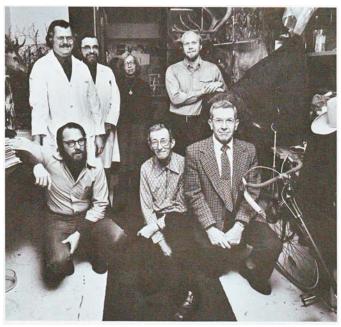
If there is anything I can ever do to assist you please do not hesitate to call on me. I will be more than happy to assist with academic advisement or any other project you request.

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!

PUZZLES, JOKES, QUOTES, CARTOONS

CARTOON:



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/

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.*

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

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.

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.

