

# BIOLOGYCURRENTS

2014 | THE QUEENS COLLEGE BIOLOGY ALUMNI NEWSLETTER | VOLUME 17, NO. 1

## Letter from the Editor



Corinne A. Michels

I hope you enjoy *Biology Currents*. From our viewpoint, we are finding it very rewarding reviewing the events of each year with you. This issue we are inaugurating two new sections,

**CAREER STORIES** and **ALUMNI UPDATE**. Our ability to include these sections depends on your communications with us. We need to hear from those of you who would like to update your fellow alums on your status. In **CAREER STORIES** we plan to highlight the careers of graduates, particularly those whose experiences in the Queens College Biology Department were fundamental to their career path. This first **CAREER STORY** is about Olivier Noel, a relatively recent graduate whose career has taken an unexpected but exciting turn.

A prominent theme of several recent issues of *Biology Currents* is the increasing role of undergraduate student research in the Biology student's educational experience. Olivier Noel's **CAREER STORY**, although in its early stages, clearly shows how original research experiences can unleash one's mind and open new horizons. Biology students at all levels are involved in faculty research, not just graduate students, and the **FACULTY SCHOLARSHIP** section is testament to this. The Department maintains several programs that focus on supporting undergraduate original research—summarized on our website under “Student Resources”—and alumni donations play an important role in creating a supportive environment.

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## John Dennehy Appointed Head of Undergraduate Research

When Richard Bodnar, Dean of Research and Graduate Studies, created the College's Office of Undergraduate Research, the choice of who should be the first Director was obvious: Biology's John Dennehy. Dr. Dennehy has a long history of encouraging undergraduate research, much of which has been documented here in previous issues of *Biology Currents*. Since 2009 he has run Phage Hunters, a very successful undergraduate genomics research program that is supported by the Howard Hughes Medical Institute. Over 100 students have completed Dr. Dennehy's classes associated with Phage Hunters, and several journal articles have been published that include student authors. In 2012 Dr. Dennehy was awarded a National Science Foundation Faculty Early Career Development Award that recognized his outstanding efforts to include undergraduates in his teaching and research. Readers of *Biology Currents* should be very aware of the large number of undergraduate researchers he has mentored.

Prior to his appointment, the responsibility for finding research opportunities fell largely to the undergraduate student, who had to fend for him or herself, an overwhelming task. Dr. Dennehy correctly described the situation as follows: “There is no structure to connect students and professors. Many undergraduates are unaware of the opportunities until quite far into their careers. Some students come to me as seniors and say, ‘I want to apply to med school, so I should get some research experience.’ But by that point, it's really too late.”

But that has changed with John Dennehy at the helm. He wants to ensure that freshmen know from the outset everything they should about research

opportunities at the College so that they can get on the right track and stay on it. His first priority was the creation of a web page to serve as a central repository for information on research opportunities, resources, funding, and classes involving undergraduate research at Queens College and much more.

The Office of Undergraduate Research website (<http://ougr.qc.cuny.edu/>) does much more than simply list the names of faculty interested in mentoring student research. It provides a wealth of information designed to guide the novice researcher. Among the resources are a variety of “How-to” videos on preparing a poster presentation using MS Office PowerPoint, how to give a good research presentation, how to write a research report, and even preparing your curriculum vitae and applying for a job or graduate school. Students are alerted to upcoming student research conferences where they can present their work. Research courses offered for credit are listed. It is truly a one-stop shopping site for students interested in doing research and, most important, offers advice on how to get involved early in their college career.

The Office of Undergraduate Research sponsors two events each year. In the fall an Undergraduate Research Opportunities Showcase is held to allow faculty to present on research in their own laboratories, inform students on the importance of research, and recruit student researchers to join their laboratories. In the spring a joint Sigma Xi/Undergraduate Research Day is a forum for students



Dr. John Dennehy

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## **José Anadón: Computational Ecologist Appointed Assistant Professor**



**Dr. José Anadón**

We are pleased to welcome José Anadón, the newest addition to the Biology Department tenure-track faculty. Dr. Anadón is an ecologist who

explores the impact of habitat change on ecosystems, particularly at the population and community levels. Broadly speaking, his approach is to use modeling as a tool to understand species' and communities' distributions, the spread of biological invasions, and the role of landscape change in the functioning of populations.

Basically, Dr. Anadón is a computational biologist/ecologist who fills a very important niche in the Department. His early research explored the habitat, population dispersal, genetic variations, and other aspects of the ecology of the terrestrial tortoise of southeastern Spain. Since moving to the United States, he has expanded his interests to the interplay between flora and fauna in an ecological system and climate effects on plant species in the U.S. and throughout the Americas, particularly in tropical regions.

Dr. Anadón's love of ecology and the environment has its roots in his childhood. He was born in northeastern Spain in the city of Saragossa. His fondest childhood memories are of the small village of 70 inhabitants, Villarroya del Campo, where his family is from and where he enjoyed weekends, holidays, and summers. Dr. Anadón remembers "long walks in the countryside, checking the crops, sitting down in a shrub just admiring the landscape, listening to the larks, observing vultures circling in the sky, smelling the thymes and the lavenders." These experiences produced in him "a strong bond with rural life and with nature." A turning point in his life came at the age of thirteen when he got his first good binoculars and a bird field guide. As he describes it, "From there, there was no way back."

When asked what sparked his interest in science, Dr. Anadón responded, "I think I have always had a very rational approach to knowledge." During his teenage years, he enjoyed many hours in local libraries reading about the natural world, history, and geography. But his hands-on research experiences that started during his college years really got him started in a career in science. Dr. Anadón received his bachelor's, master's, and PhD degrees from the University of Murcia in Spain. He majored in biology with a specialization in botany and, from his freshman year, wanted to do research in ecology and conservation. By his junior year, he started doing field-based research on the ecology of terrestrial tortoises that eventually became his master's and doctoral thesis studies.

Dr. Anadón moved to utilizing a more computational approach to ecology during a two-year postdoctoral fellowship in the Department of Ecological Modelling at the UFZ (Center for Environmental Research) in Leipzig, Germany. Never a "computer geek," he nonetheless had become specialized in quantitative ecology, that is, ecology with a strong analytical component, and his time at UFZ "deepened my knowledge of the analysis of ecological data by means of computation." Just when his UFZ

fellowship was ending, both Dr. Anadón and his wife, also a researcher, were offered opportunities at Arizona State University. In 2012 they made the life-changing move to develop their careers in the U.S. While at ASU, Dr. Anadón worked with Osvaldo E. Sala and Leah R. Gerber at the Tempe campus as well as other international collaborators and initiated research projects in a variety of regions throughout the Americas on terrestrial and marine ecosystems.

When asked what brought him to Queens College, Dr. Anadón enthusiastically answered that the "research and teaching expectations . . . completely matched my research and teaching experience and preferences." The diversity of the students' backgrounds appealed to him, and he "found excellent possibilities for collaboration within the department, but also with faculty from other CUNY campuses." He feels that "New York City is a great place to live and to raise your family."

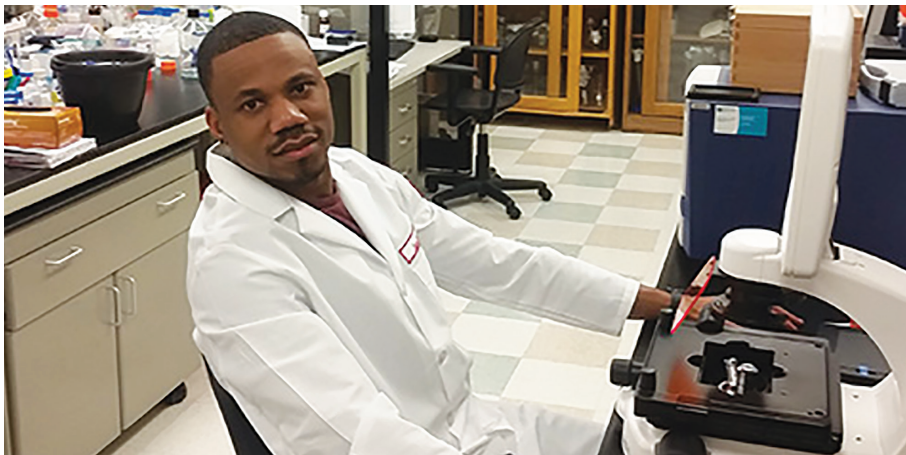
To date, Dr. Anadón has taught Introduction to Statistics at the undergraduate level and Introduction to R (a statistical programming language) at the graduate level. He really enjoys teaching and finds teaching and research to be "complementary activities." "Research is

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**Dr. Anadón in the lab with research students: undergraduate Tasfia Tabassum and PhD candidate Alexis Brewer (on right).**





**Olivier Noel at work in the Holtzman lab**

Because of his impressive achievements since graduation, Olivier Noel (Class of 2011) was recently featured on the Queens College website ([www.qc.cuny.edu/Profiles/page—Past Profiles](http://www.qc.cuny.edu/Profiles/page—Past%20Profiles)), in the *New York Daily News* (in 2011), and in the online biotechnology business journal *GenomeWeb*. Yes, a business journal! In just a few short years, this remarkable and talented young man joined together the skills he learned doing research with the Biology Department's Nathalia Holtzman with vision and insight to co-found a novel biotech/healthcare company—DNAsimple—that is already getting recognition from the venture capital community.

A native of Port-au-Prince, Haiti, Noel came to the United States in 2007. His plans to attend medical school in Mexico had unexpectedly fallen through but, with the encouragement of family, he came to New York, enrolled at Queensborough Community College, and soon transferred to Queens College. Noel was an outstanding undergraduate student, regularly making dean's list. Along with all of his academic achievements, he somehow found time to tutor students in French, Spanish, biology and chemistry, volunteer at the Queens Hospital Center Emergency Room and for Habitat for Humanity in New Orleans after Hurricane Katrina, and captain the college's soccer team his freshman year.

Perhaps Noel's most significant decision while at Queens College was to

participate in the Biology Department's undergraduate student research programs, which he now says was “essentially the beginning of my scientific career.” Noel worked in Dr. Holtzman's laboratory, where he received “invaluable mentoring” and nurtured his “love for science and general curiosity about how physiological processes take place.” His projects used drugs to remove or deplete the endocardium from the developing zebrafish heart, and thereby disrupt the cell-cell interactions required for early heart morphogenesis. Noel was awarded an American Heart Association Summer Research Fellowship, a NIH MARC U-Star Fellowship Award, a CUNY International Student Essay Competition Award, and a Region 15 Excellence in Sports and Academics Award. Noel says that his research experience “prepared me for a career in science and ultimately put me in position to be accepted into an MD/PhD program” at Penn State College of Medicine, which included full scholarship support.

Noel is making excellent progress in the MD/PhD program, which can be extremely demanding and take up to 10 years to complete. He reports that he is entering the sixth year in the MD/PhD program, has already completed the first two years of medical school, and is starting the fourth year of the doctoral program. His PhD research is in Biochemistry and Molecular Genetics with thesis mentor Dr. Glenn

S. Gerhard. Noel's thesis project explores the molecular mechanism(s) behind the glucose normalization and diabetes remission observed in patients who have undergone gastric bypass surgery. The hope is that understanding this phenomenon could help to find cures for diabetes.

But this was not enough for this visionary young scientist. In the summer of 2015 Noel, fellow MD/PhD student Tarik Salameh, and Jeff Conway, a computer scientist with expertise in algorithms and artificial intelligence, launched a biotechnology company called DNAsimple. DNAsimple's business plan is to maintain an online registry for individuals interested in donating DNA samples to medical research, to coordinate with genetic researchers worldwide, and thereby facilitate the studies of genetic diseases. As Noel explains it, research at many genetic institutes is often stymied by the need to find individuals able to take the time to travel to the research centers and provide DNA samples. While attending a medical genetics conference, Noel heard a researcher recount a story about how they had identified individuals with a rare genetic disease in India via a Facebook search and obtained their DNA samples via standard shipping methods. It struck Noel that he could replicate this for other genetic researchers, and DNAsimple was born.

DNAsimple acts as the matchmaker, marrying potential research subjects with genetic researchers. The company eliminates many of the issues of time and geography researchers encounter when trying to obtain DNA samples for about half the cost of creating and managing an in-house genomic sample bank. Once DNAsimple recruits a donor, the individual is registered in their database to be contacted at some time in the future to provide samples when interested research studies are identified, usually from NIH databases and published literature. The firm compensates donors each time a sample is solicited, but others forego payment and instead opt to donate it to a charity of their choice. Saliva is the most common DNA source because samples are easy to collect by the subject and easy and safe to ship. Samples are collected by DNAsimple and

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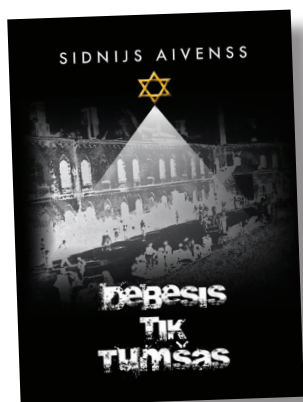
## Uldis Roze's Mission To Latvia

In early November 2014, Uldis Roze traveled to Riga, Latvia, to conclude a project he had begun two years ago with Edward Anders, Professor Emeritus, University of Chicago, Peter Bolsaitis, Professor Emeritus, University of Maryland, and Marta Mannenbach, a Latvian translator. The project was the translation into Latvian and publication in a Latvian press of Sidney Iwens's Holocaust book, *How Dark the Heavens*. During World War II, Latvia was ground between two vicious regimes: Hitler's Germany and Stalin's Soviet Union. The topic of the unique horror of

the Holocaust as it played out in Latvia remains a painful one today.

Sidney Iwens, who lived through this period, describes his firsthand experience. During Dr. Roze's trip, he visited a massacre site, gave presentations

in Daugavpils and Riga, met a string of amazing people, and collected memories to last for a long time. The translator also put a copy of the book in every library in Latvia.



At the presentation in Daugavpils on November 7, 2014. From left: Uldis Roze; Ligita Kovtuna, book publisher; Josifs Rochko, head of Jewish Museum Daugavpils.

## CAREER STORIES—NOEL

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shipped to the researchers, who in turn perform DNA extraction and downstream processing. Donors are de-identified so that researchers do not see any of their personal information and vice versa.

Initially, DNAsimple was self-funded. In November 2015 the DNAsimple team was one of 32 startup companies selected from 6,500 worldwide to participate in a intensive program with Y Combinator, a Silicon Valley-based organization that works with early stage startup companies to provide seed money and help refine their business plans for the next step of funding. In spring 2016 DNAsimple was one of 25 companies accepted by the Philadelphia-based DreamIt from 1,000

companies from over 40 countries who applied. DreamIt is a growth accelerator designed to provide startups with access to investors, a sales pipeline, and a network of resources. DreamIt works in partnership with Independence Blue Cross and the University of Pennsylvania Health System, and was named one of the top 10 business accelerators in the world by *Forbes* magazine. DNAsimple now has offices in City Center, Philadelphia, and has taken on a staff of four: Gia Harris, a UPenn master's student in Public Health; Yuge Xiao, a Columbia University undergraduate bioengineering major; Suzanne Tullo, a Syracuse University undergrad studying writing, rhetoric, and discourse; and Daspreet Sidhu, a clinical bioethicist.

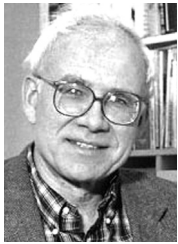
Noel says, "I'm very proud of how things have progressed with DNAsimple in such a short amount of time, already helping several research teams with various scientific projects and generating revenue in less than one year." When asked where his entrepreneurial spirit came from, Noel responded, "I always enjoyed taking on a leadership role in the classroom, on the soccer field, and in student government or different clubs or organizations, so I think this fact combined with my dynamic personality led me to this entrepreneurial journey that I've embarked on for about a year now."

By the way, despite all that is going on in his professional life, Noel still plays soccer with a league on Tuesdays and coaches in a youth league.



## FACULTY IN THE NEWS

**ULDIS ROZE** was quoted in a



*National Geographic* article entitled, “Fierce, Furry Fishers Are Expanding Their Range—and Bulk,” written by Jason Bittel. Fishers are ferocious long-

tailed carnivores that are returning to the northeastern United States, a range where they have not been seen for a century or more. They are having a major impact on local porcupine populations. (<http://bit.ly/1x6k17E>)

Dr. Roze’s trip to Riga, Latvia, with a translation of Sidney Iwens’s Holocaust book, is described on page 4.

**JOHN WALDMAN** was in the news and on radio and television several times in 2014. Only a few can be described in any detail here, but information is given so that you can delve further into any of interest to you.

Dr. Waldman’s newest book, *Running Silver: Restoring Atlantic Rivers and Their Great Fish Migrations*, has been very well received, with a five-star rating on Amazon.com. A reviewer for the Nature Conservancy wrote, “To accomplish this, he looks to historical records, paleontology and the scientific literature in an exhaustively-researched work. He weaves in personal stories brimming with his passion for fish and moving water. He takes the reader through the natural cycles of migration and spawning of anadromous fish. The result is a beautiful and often heartbreaking book, one of the most important conservation works I’ve read in recent years.” Dr. Waldman was invited to give several interviews and appeared on radio and TV podcasts to discuss his book.

Dr. Waldman co-authored with J. Jed Brown a column in the May 29, 2014 issue of the *Providence Journal* entitled, “Don’t Expect Shad with the Shadbrush.” The article discusses the impact of river dams on the ability

of migratory fish to return to their traditional spawning grounds. Waldman and Brown wrote that attempts to facilitate the migration using fish “elevators” and “ladders” are ineffective, particularly in northeastern rivers, and have resulted in putting many of these migratory species on the endangered list. In one example they state, “It has been estimated that American eels have lost access to 84 percent of their habitat from Maine to Florida because of over 15,000 dams.” They continue, “Rivers once ‘ran silver’ with the swimming of these fish, providing abundant food and a remarkable natural spectacle.” (<http://bit.ly/2aGaZLb>)

Along with Karin Limburg and Amy Roe, Dr. Waldman authored a New York Times op-ed column that appeared on September 8, 2014, entitled “Let the River Run Wild.” (<http://nyti.ms/1qH6rVL>)

The online group New Books in Environmental Studies interviewed Dr. Waldman to discuss *Running Silver*. The podcast aired on January 16. (<http://bit.ly/1ad18c0>)

On World Fish Migration Day, May 24, Dr. Waldman offered his perspective in an online interview for the *New York Times* Dot Earth blog. He recalled a time when America’s rivers ran silver and asked the question, “Can America’s rivers run silver again?” The article includes an excellent short video showing the pace of river dam construction in America from 1800 to 2003. (<http://nyti.ms/2aNKoid>)

Dr. Waldman is also involved in several other projects, most focusing on his expertise on New York Harbor ecology and fish conservation biology.

Dr. Waldman gave an interview for the *New York Daily News* entitled “Jamaica Bay Offers Ocean of Knowledge for New York City’s STEM Students” on December

16. He described the newly established Jamaica Bay Science and Resilience Institute, a research consortium led by the City University of New York, in which Dr. Waldman will play a major role. The institute will foster research projects on this critical part of New York Harbor, everything from the resiliency of the bay’s salt marshes to strategies for withstanding another Hurricane Sandy. Dr. Waldman reports that “We’re going to use Jamaica Bay as our lab and attempt to understand how we can make it more resilient both in terms of the ecosystem and also in terms of the safety and well-being of the human community.” The institute has already received \$11.3 million in grants. CUNY is now working to find a site for the institute and obtain a custom-built vessel capable of exploring the bay and large enough to carry entire classes of students. (<http://nydn.us/13c3CnV>)

An article by Dr. Waldman entitled “Climate Change: A Cool-Eyed Look at Fishing in Our Warming Waters” appeared in the March 2014 issue of the *Fisherman Magazine*.

On July 17, Dr. Waldman gave a radio interview as part of the Fordham Conversations series. He spoke on “The Sea Life and Comeback of NY Harbor.” (<http://bit.ly/1tqmp70>)

Dr. Waldman also appeared on CUNY Television’s series “Study with the Best” to discuss his work on the restoration of the Bronx River. Watch on <http://bit.ly/1FULpba>.



**John Waldman in Jamaica Bay marshland (from New York Daily News)**

This section reviews some highlights of the scholarly activities of Biology Department faculty members, staff, and students during 2014. The diversity of these activities is a clear indicator of the international recognition of our dedicated faculty. You should note the extent to which undergraduate students are integrated into their research programs.

**JOSÉ ANADÓN** participated in an international study of ecological damage to grasslands, funded by the National Academies Keck Futures Initiative and the National Science Foundation. In a comparative study of the United States and Argentina, Anadón joined researchers from Arizona State and McGill Universities in evaluating the impacts of invasive trees and shrubs on lands used for pasture and other purposes. The findings were published in August in the *Proceedings of the National Academy of Sciences*.

**PETER CHABORA** reviewed (with publisher credit) the newest edition of the introductory biology text *Life: The Science of Biology*, 10th Edition, by David H. Sadava, David M. Hillis, H. Craig Heller, and May R. Berenbaum. Published by Sinauer Associates and W. H. Freeman and Company. (ISBN 978-1-4292-9864-3).

**JOHN DENNEHY** was appointed Director of the Queens College Office of Undergraduate Research (see article in this issue). In addition, Dr. Dennehy was interviewed about evolutionary biology and experimental evolution for the *Science Forward* seminar series sponsored by CUNY Advance and the Macaulay Honors College. The video

series is intended to provide new instructional material for introductory science classes. The interview can be viewed at <http://bit.ly/2aLy5S5>.

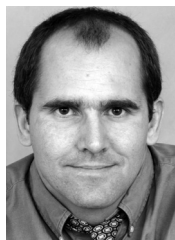
Dr. Dennehy was invited to present at BioQUEST Curriculum Consortium's 28th Annual Curriculum Development Workshop, which was held in the Interdisciplinary Science Learning Laboratory at the University of Delaware. His workshop, entitled "Mathematical Modeling in Biology," introduced teaching strategies and techniques to integrate mathematical modeling into the Biology curriculum. The workshop also covered how to use microbes (e.g., bacteria and bacteriophages) to demonstrate population biology and population genetic models in laboratory classes. The workshop was well attended by an international complement of faculty from a wide variety of colleges and universities.

**NATHALIA HOLTZMAN** spoke in the Environmental Medicine seminar series of the New York University Langone Medical Center on "PCBs differentially modulate key developmental pathways in zebrafish" and at the St. John's University Biology Department seminar series on "While the beat goes on: Cardiac contractility directs cardiac morphogenesis."

Dr. Holtzman's active dedication to science education at all levels is unabated. She was invited to participate in a professional development program, Biology Scholars Program Assessment Residency Institute, a project sponsored by the American Society for Microbiology (ASM) and funded in part by the National Science Foundation. The Biology Scholars Program is the ASM's approach for transforming undergraduate biology education, as described in the ASM publication *Vision and Change in Undergraduate Biology Education: A Call to Action*. The goal of the program

is to spread the word to institutions and professional societies on how to create discipline-based research communities. This project is certainly consistent with the Biology Department's expanding role in Queens College and CUNY's effort to expand opportunities for undergraduate research. Dr. Holtzman also spoke at the Zebrafish Development and Genetics Conference held in Madison, WI, on a project she developed, "An Introduction to CREATE: Using scientific literature to transform students' understanding of science." Moreover, Dr. Holtzman participated in and developed course materials for the Numeracy Infusion Course for Higher Education (NICHE), a project of CUNY's Quantitative Reasoning Alliance. The goal of NICHE is to foster the infusion of instruction in quantitative reasoning and assessment into undergraduate courses in a broad range of disciplines and to develop "best practices" techniques for teaching quantitative reasoning.

**DAVID LAHTI** continues to be active online developing blogs and resource websites. Keep in mind that Dr. Lahti has two earned doctorates: a PhD in ecology and evolutionary biology from the University of Michigan and a PhD in moral philosophy and philosophy of biology from the Whitefield Institute at Oxford, UK. Dr. Lahti's scholarly activities focus on both interests. He maintains the Online Bibliography of Environmental Thought, which received funding and sponsorship from the American Philosophical Association. Additionally, he created a new educational blog: Reflections on Great Literature (<http://www.greatlit.net>). The site posts articles on works by authors and philosophers of note, including Edmund Burke, Charles Dickens, Henry Fielding, Nadine Gordimer, Nathaniel Hawthorne, Franz Kafka, Aldo Leopold, Pliny the Younger, Sappho, Dorothy



L. Sayers, Henry David Thoreau, Tom Wolfe, William Wordsworth, the West Midlands Poet, an anonymous author of the Icelandic Saga, and others.

Dr. Lahti spoke in a variety of venues about his research on the relationship of evolution, behavior, and philosophy. He spoke at the Northeast Evolutionary Psychology Society Annual Meeting at SUNY New Paltz, NY, on “Relationship counseling for evolutionary psychology and philosophy.” He presented his research on “Egg variation and defenses against brood parasitism in Rüppell’s weaver” to the Joint Meeting of the Wilson Ornithological Society and the Association of Field Ornithologists held at Salve Regina University, Newport, RI. Dr. Lahti discussed his research on “Macroevolution of responses to brood parasitism in weavers: one or multiple trajectories?” at the International Society for Behavioral Ecology biennial meeting held at CUNY, New York. He spoke on “Social learning is biased: evidence from sparrows and canaries” at the Columbia University Seminar in Population Biology, New York; on “Spontaneous generation of laboratory culture” at the University of Massachusetts’ Organismic and Evolutionary Biology Program 20th Anniversary Symposium, Amherst, MA; and at the CUNY Graduate Center Philosophy Department, New York, on “Relationship counseling for natural and moral philosophy.”

Dr. Lahti participated in the three-day Gordon College Hermann Lectures held November 5–7 in Wenham, MA. The lead speaker, Dr. Denis Alexander, Fellow and Emeritus Director of the Faraday Institute for Science and Religion, St. Edmund’s College, Cambridge, discussed the topic “Is life going anywhere? Biology, randomness, and purpose.” Dr. Lahti’s response, entitled “Science is blind to ultimate purpose,” was presented on November 6. Dr. Lahti participated in the 2014 Moral Sense Colloquium held at St. Francis College, Brooklyn Heights, NY. He presented a talk on “Morality and its relationship to human evolution” and was

a member of the panel discussing “Moral Sensations.”

Dr. Lahti was appointed to the Advisory Committee of the Psychology Doctoral Program, Animal Behavior & Comparative Psychology Subprogram of the Graduate School of CUNY.

Dr. Lahti and his students attended a number of scientific conferences where they presented posters on their research. The Joint Meeting of the Wilson Ornithological Society and the Association of Field Ornithologists held in Newport, RI, was attended by doctoral students Chenghui Ju and Franny Geller, who presented a poster on “Quantifying spatial variation of house finch (*Carpodacus mexicanus*) song”; by master’s student Khaleda Khan, who presented a poster entitled “A day in the life of a colonially breeding weaverbird”; and by master’s student Bobby Habig, who presented his research “To flee or not to flee: the impact of colony-wide disturbances on male risk-taking in the village weaver (*Ploceus cucullatus*).” Khaleda Khan presented a poster on “Mate attraction dominates the behavior of a colonially breeding bird” at the International Society for Behavioral Ecology Biennial Meeting, CUNY, New York. Undergraduate students Charles Maniego and Julieana Steiner, master’s student Khaleda Khan, and doctoral students Franny Geller and Chenghui Ju presented a joint poster on the “House finch cultural evolution” at the Sigma Xi Research Day, Queens College.

**ALICIA MELÉNDEZ** was invited to speak at several scientific conferences and seminar series. She spoke in the seminar series of the Department of Biology and Geology of Queensborough Community College, CUNY, and at the Rutgers University Worm Group, Piscataway, NJ, on her research on “Autophagy in *C. elegans*



development and aging.” Dr. Meléndez presented at the annual Meeting of the American Society of Cell Biology held in Philadelphia, PA, on her work with doctoral student Nicholas Palmisano entitled “The small GTPase RAB-10 regulates autophagy function in *C. elegans*.”

Dr. Meléndez presented posters at the Queens College Sigma Xi Honor Society Research Symposium with doctoral student Melissa Silvestrini and undergraduate student Hannah Hong on “Autophagy genes have a role in mitochondrial homeostasis in *C. elegans*”; with doctoral student Nicholas Palmisano and undergraduate student David Jimenez, describing a “Screen for endocytic genes required for dauer development and autophagy”; and with doctoral student Kristina Ames on the “Role of BEC-1 in *C. elegans* germline development.” Dr. Meléndez presented a poster with doctoral student Kristina Ames on “Autophagy genes in *C. elegans* germline proliferation and maintenance” at the Cold Spring Harbor Laboratory Meeting on Germ Cells. She also made a poster presentation at the Legislative Office Building, Albany, with doctoral student Nicholas Palmisano and undergraduate student David Jimenez on “Screen for endocytic genes required for dauer development and autophagy.”

Dr. Meléndez served as NY Area Worm Meeting co-chair and as a member of the Advisory Committee of the Biology Doctoral Program, Molecular, Cellular, and Developmental Biology Subprogram of the Graduate School. She also was an ad hoc member of the Cellular Mechanisms in Aging and Development Study Section (CMAD), NIH Review Panel.

**ESTHER MUEHLBAUER** reviewed (with publisher credit) the newest edition of *Essentials of Biology Laboratory Manual*, Fourth Edition, by Sylvia S. Mader, published by McGraw-Hill, New York.



**CATHY SAVAGE-DUNN** attended the Northeast Regional Meeting of the Society for Developmental Biology held in Woods Hole, MA. Dr. Savage-Dunn presented posters with doctoral student James Clark on “The role of TGF $\beta$  and insulin signaling pathways in lipid metabolism” and with doctoral student Uday Madaan on “*DBL-1* target gene regulation by SMA-2, SMA-3, and SMA-4.”



**JOHN WALDMAN** appears in the **FACULTY IN THE NEWS** section of this issue. His other professional activities are described here. Dr. Waldman participated in a tour of United Kingdom Wetlands



Centres, courtesy of CUNY’s Science & Resilience Institute of Jamaica Bay. He also participated in a tour of Norwegian sustainable salmon and cod fisheries courtesy of Whole Foods Corporation, resulting in an essay in *Yale Environment 360* on “How Norway and Russia Made a Cod Fishery Live and Thrive.” Dr. Waldman led Resilience Practice Workshops for CUNY’s Science & Resilience Institute for Jamaica Bay, and moderated a panel on Rockefeller Resilience Practice Report Conclusions and Recommendations for the Symposium on Resilience Practice in Jamaica Bay.

Dr. Waldman was invited to speak at numerous venues. He spoke on “Genetic Mixed-Stock Analysis of Coastal American Shad Fisheries” for the Delaware River Basin Commission, West Trenton, NJ; on “River Herring in Rhode Island—Can Our Rivers Run Silver Again?” for the Rhode Island Natural History Survey, Providence, RI; and was the keynote speaker at the Maine Rivers Conference on the Kennebec, Waterville, Maine, where he spoke about his book *Running Silver:*

*Restoring Atlantic Rivers and Their Great Fish Migrations.*

Dr. Waldman discussed the question, “Can the Delaware River Run Silver Again?” at the Delaware Riverkeeper and Sierra Club, Cherry Hill, NJ, and at the Moodna Creek Watershed Intermunicipal Council, NY. He participated in a panel discussion on “American Catch: The Past, Present and Future of New York’s Local Seafood” for the Wildlife Conservation Society of New York, NY, and lectured on and moderated a panel on “Examining the Value of Urban River Restoration” at a symposium on Urban River Restoration: Reclaiming a River—Conservation & Community for the Wildlife Conservation Society, New York, NY. With co-authors Richard DeMarte and Michael Bednarski, Dr. Waldman spoke on “The Effect of Dams on Densities and Sizes of American Eels in the Bronx River” at the Tibor T. Polgar Fellowship Program, Cary Institute, Millbrook, NY.

**DANIEL WEINSTEIN** attended the American Society for Cell Biology’s 53rd Annual Meeting held in Philadelphia, PA, and presented a poster with doctoral student Ye Jin on the “Regulation of BMP signaling by Pitx1 during the formation of the cement gland in *Xenopus laevis*.” He also attended the Seventh Aquatic Animal Models for Human Disease Conference held in Austin, TX, and presented a poster with

doctoral student Sushema Teegala entitled “Tbx2a in early *Xenopus* development.”

**ZAHRA ZAKERI** spoke on “Virus infections and manipulation of autophagy” at the Karaköy Autophagy Symposium, Sabanci University, Istanbul, Turkey, and on the “Manipulation of cell death machinery by viruses” at the Fourth International Symposium of Molecular Technology on Biotechnology in Progress: Drug Development and Therapeutics, Tehran, Iran.



Dr. Zakeri co-organized the Fourth International Symposium of Molecular Technology on Biotechnology in Progress: Drug Development and Therapeutics, that was held October 14–16, 2014, in Tehran, Iran. She also co-organized the Cell Death and Diseases meeting held in Stellenbosch, South Africa, May 8–10, 2014.

Dr. Zakeri serves on the Grant Review Committee of the International Grants Unit National Research Foundation South Africa.

## JOHN DENNEHY

*continued from page 1*

to present the outcomes of their own research to their peers, family, and faculty. Biology alumni are most welcome to attend these events.

One important contributor to increasing participation by CUNY’s urban student population is offering scholarships and paid internships during the academic year and summer recess. Queens College already has a number of successful research programs of which readers of *Biology*

*Currents* are already aware because Biology professors oversee the programs: the URME program (Undergraduate Research and Mentoring Education) and the MARC program (Maximizing Access to Research Careers). The College is initiating a “crowdfunding” campaign via GiveCollege.com. Dr. Dennehy plans to provide a link on the [ougr.qc.cuny.edu](http://ougr.qc.cuny.edu) website for anyone wishing to sponsor the research activities of an undergraduate student for a summer.



# FACULTY SCHOLARSHIP 2014

D = Doctoral student    M = Master's student    U = Undergraduate student

## BOOKS

**Chabora, P. C.**, 2014. *General Biology I and II: Laboratory and Lecture Synthesis*. Hayden- McNeal Publishers, Plymouth, MI, 570 pages. ISBN: 978-0-7380-6374-4.

## BOOK CHAPTERS:

**Lahti, D. C.**, 2014. On the partnership between natural and moral philosophy. In *Understanding Moral Sentiments*, H. Putnam, S. Neiman, and J. Schloss (Eds.). Transaction Press, New Brunswick, NJ, pp. 229–256.

**Lahti, D. C.**, 2014. On explanation in evolutionary biology. In *The Woodpecker's Purpose: A Scientific and Theological Critique of Intelligent Design*. W. Thorson (Editor). Gordon College CFI, Wenham, MA, pp. 135–142.

## PEER-REVIEWED PUBLICATIONS

Sanz-Aguilar A. **J. D. Anadón**, M. Carrete, P. Edalaar, and J. L. Tella, 2014. Can establishment success be determined through demographic parameters? A case study on five introduced bird species. *PLoS ONE* 9: e110019.

**Anadón, J. D.**, O. E. Sala, and F. T. Maestre, 2014. Climate change will increase savannas at the expense of forest and treeless areas. *Journal of Ecology* 102:1363–1373.

**Anadón, J. D.**, O. E. Sala, B. L. Turner, II, and E. M. Bennett, 2014. Effect of woody-plant encroachment on livestock production in North and South America. *Proceedings of the National Academy of Sciences USA* 111: 12948–12953

Becerra-López, J. L., U. Romero-Méndez, **J. D. Anadón**, and García-De la Pena, 2014. Potential niche model of *Gopherus flavomarginatus* burrows in the Reserva de la Biosfera de Mapimi. *Revista Mexicana de Biodiversidad* 85: 523–531.

**Baker, M.**, K. Hossain<sup>U</sup>, K. Zabierek<sup>U</sup>, K. Collie<sup>P</sup>, A. Alyokhin, D. Mota-Sanchez, and M. Whalon, 2014. Geographic variation in cannibalism in Colorado potato beetle (Coleoptera: Chrysomelidae) populations. *Environmental Entomology* 43(1): 102-109. DOI: <http://dx.doi.org/10.1603/EN13048>.

Chen, J., A. Alyokhin, D. Mota-Sanchez, **M. Baker**, and M. Whalon, 2014. Variation in fitness among geographically isolated Colorado potato beetle (Coleoptera: Chrysomelidae) populations. *Annals of the Entomological Society of America* 107(1):128–135.

Ford<sup>P</sup>, B. E., B. Sun<sup>M</sup>, J. Carpino<sup>P</sup>, E. S. Chapler<sup>U</sup>, J. Ching<sup>U</sup>, Y. Choi<sup>U</sup>, K. Jhun<sup>U</sup>, J. D. Kim<sup>U</sup>, G. G. Lallo<sup>M</sup>, R. Morgenstern<sup>U</sup>, S. Singh<sup>U</sup>, S. Theja<sup>U</sup>, and **J. J. Dennehy**, 2014. Frequency and fitness consequences of bacteriophage  $\phi 6$  host range mutations. *PLoS ONE* 10.1371/journal.pone.0113078.

**Dennehy, J. J.**, 2014. What ecologists can tell virologists. *Annual Review of Microbiology* 68: 117–35.

Singh, A. and **J. J. Dennehy**, 2014. Stochastic holin expression can account for lysis time variation in the bacteriophage  $\lambda$ . *Journal of the Royal Society Interface* 11: 20140140. doi: 10.1098/rsif.2014.0140.

Jordan, T. C., S. H. Burnett, S. Carson, S. M. Caruso, K. Clase, R. J. DeJong, **J. J. Dennehy**, D. R. Denver, D. Dunbar, S. C. R. Elgin, A. M. Findley, C. R. Gissendanner, U. P. Golebiewska, N. Guild, G. A. Hartzog, W. H. Grillo, G. P. Hollowell, L. E. Hughes, A. Johnson, R. A. King, L. O. Lewis, W. Li, F. Rosenzweig, M. R. Rubin, M. S. Saha, J. Sandoz, C. D. Shaffer, B. Taylor, T. Temple, E. Vazquez, V. C. Ware, L. P. Barker, K. W. Bradley, D. Jacobs-Sera, W. H. Pope, D. A. Russell, S. G. Cresawn, D. Lopatto, C. B. Bailey, and G. F. Hatfull, 2014. A broadly implementable research course for first-year undergraduate students. *mBio* 5(1): e01051–13. doi:10.1128/mBio.01051–13.

Hartnett, J. W., J. R. Hannah, S. M. Romanelli, **K. R. Fath**, V. Flaris, and I. A. Banerjee, 2014. Fabrication of CdS bound pyrazole carboxamide conjugated nanoassemblies and their applications. *Materials Express* 4: 441–452. doi:10.1166/mex.2014.1203.

Singleman<sup>P</sup>, C. and **N. G. Holtzman**, 2014. Growth and maturation in the zebrafish, *Danio rerio*: A staging tool for teaching and research. *Zebrafish* 11(4): 396-406.

**Lahti, D. C.** and F. Nottebohm, 2014. Remembering Paul Mundinger. *Auk: Ornithological Advances* 131: 116-119.

Habig<sup>U</sup>, B. and **D. C. Lahti**, 2014. Heterospecific intrusions, synchronous fleeing, and nest attendance in a weaverbird colony. *Journal of Ornithology* 156:551-555. doi: 10.1007/s10336-014-1144-7.

Navarro<sup>M</sup>, J. Y. and **D. C. Lahti**, 2014. Light dulls and darkens bird eggs. *PLoS One* 9:e116112.

**Mundinger, P. C.** and **D. C. Lahti**, 2014. The quantitative integration of genetic factors in the learning and production of canary song. *Proceedings of the Royal Society of London B* 281:20132631.

Hoffman, S., R. Doonan, D. Martin, **A. Meléndez**, and J. Bargonetti, 2014. C. elegans CEP-1/p53 and BEC-1 are involved in DNA repair. *PloS One* 9(2):e88828. doi: 10.1371/journal.pone.0088828.

De, S., **A. Tsimounis**, X. Chen, and S. A. Rotenberg, 2014. Phosphorylation of  $\alpha$ -tubulin by protein kinase C stimulates microtubule dynamics in human breast cells. *Cytoskeleton (Hoboken)* 71(4):257–72.

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## FACULTY SCHOLARSHIP 2014

D = Doctoral student  
M = Master's student  
U = Undergraduate student

Datan<sup>U</sup>, E., A. Shirazian, S. Benjamin, D. Matassov<sup>P</sup>, A. Tinari, W. Malorni, R. Lockshin, A. Garcia-Sastre, and **Z. Zakeri**, 2014. mTOR/p70S6K signaling distinguishes routine, maintenance-level autophagy from autophagic cell death during influenza A infection. *Virology* **452-453**:175–190.

Penaloza<sup>P</sup>, C., B. Estevez, D. Han, M. Norouzi, R. Lockshin, and **Z. Zakeri**, 2014. Sex-dependent regulation of cytochrome P450 family members Cyp1a1, Cyp2e1, and Cyp7b1 by methylation of DNA. *FASEB Journal* **28**:1–12.

Roy, S. G., B. Sadigh, E. Datan<sup>U</sup>, R. A. Lockshin, and **Z. Zakeri**, 2014. Regulation of cell survival and death during Flavivirus infections. *World Journal of Biological Chemistry* **5**(2):93–105.

## Student Highlights

We are pleased to report some of what our Biology Department students have been doing and the honors earned.

Doctoral student **ELLIOT AGUILAR** (Lahti lab), thanks to his Nordic Research Opportunities Fellowship from the National Science Foundation/Swedish Research Council, was invited to speak on his research at a number of European conferences. He spoke on “Modeling linguistic innovation and spread in an expanding population” at the Variation and Change Workshop, Aarhus University, Denmark, and at the Grammatical Hybridization and Social Conditions Workshop, Max Planck Institute for Evolutionary Anthropology, on “Modeling contact-induced language change in Angolan Portuguese.”

Elliot attended the Human Behavior & Evolution Society Conference in Natal, Brazil, and the European Human Behavior & Evolution Association Annual Meeting held at the University of Bristol, Bristol, UK. At both conferences he described his work “On the theory of cultural genealogies.”

Doctoral student **CHENGHUI JU**, with her thesis mentor David Lahti, released the analytical software tool “FinchCatcher: a pipeline for the automated detection, quantitative analysis, and comparative study of natural sounds recorded amid ambient noise.” As a result, she was invited to join a think tank involving an interdisciplinary team of scientists at the National Institute for Mathematical and Biological Synthesis (NIMBioS) Workshop held at the University of Tennessee, Knoxville. The team participants, including Chenghui Ju, published “Acoustic sequences in nonhuman animals: a tutorial review and prospectus” describing their discussions in the highly respected journal *Biological Reviews* (doi: 10.1111/brv.12160).

Chenghui received several grants and awards for her research, including an Animal Behavior Society Student Grant, an Association of Field Ornithologists Student Award, a CUNY Graduate Center Doctoral Student Research Grant, and an Association of Field Ornithologists Best Graduate Student Poster Award. Chenghui attended

the Animal Vocal Sequences Symposium, International Society for Behavioral Ecology Biennial Meeting, CUNY, where she spoke on “Quantifying spatial variation of house finch song by sequence analysis.”

Graduating senior **ELIZABETH FRUCHTER** (High Honors, ΦBK, ΒΔΦ) received a Scholarship Award from the Queens College Retirees Association.

Doctoral student **M. AARON OWEN** (Lahti lab) spoke at the South and Central Asia Fulbright Research Conference, Chennai, India. He spoke on one aspect of his Fulbright Award-supported research in India, “The biological and cultural impacts of the invasive small Indian mongoose.”

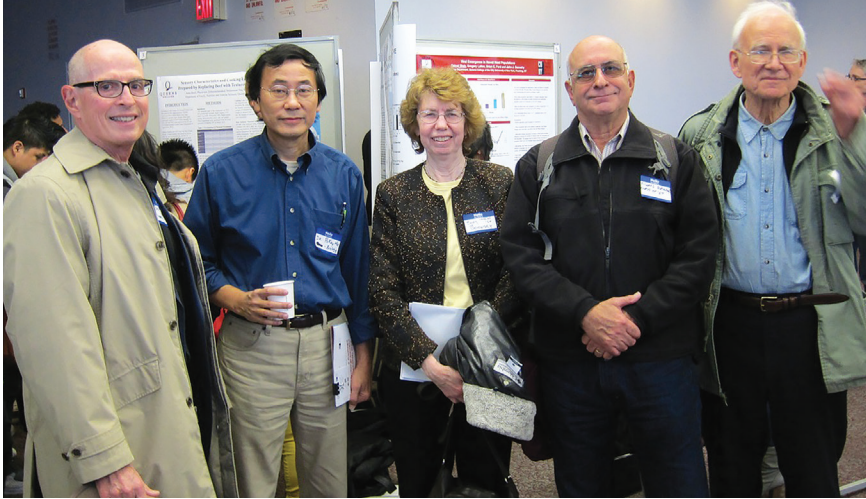
Doctoral student **NICHOLAS PALMISANO** (Meléndez lab) received a 2014 Dissertation Award from the CUNY Graduate Center.

Undergraduate research student **ELSA ROSARIO** (Dennehy lab) won the “Best Poster in Microbiology Prize” at the 2014 Annual Biomedical Research Conference for Minority Students (ABRCMS) meeting held in San Antonio, TX. She also won the “Best Poster in Biology Prize” at the Twenty-Third Annual Collegiate Science & Technology Entry Program (CSTEP) Conference, Lake George, NY.

Doctoral student **MELISSA SILVESTRI** (Meléndez lab) received a 2014 Dissertation Award from the CUNY Graduate Center.

Doctoral student **CORINNA SINGLEMAN** (Holtzman lab) was named a Polgar Fellow by the Hudson River Foundation.

## **Hinderstein '64 and Borowsky '64 Return for 2014 Homecoming**



**Review of Sigma Xi Honor Society Research Symposium poster session during 2014 Homecoming. From left: Drs. Barry Hinderstein, Pokay Ma, Betty and Richard Borowsky, Uldis Roze.**

Barry Hinderstein '64, who started in the CUNY—Queens College Biology PhD program the same year, returned to the campus for a 50th reunion. He brought with him Betty and Richard Borowsky '64, and two children of the late Professor and Chair of Biology Dr. Max Hecht and his wife Bessie: Jason and Suzanne Hecht. With Dr. Uldis Roze, Professor Emeritus, the group roamed the campus, exploring many of the facilities and buildings that have been built since they graduated. Everyone was pleased to find that the campus, although greatly expanded, had retained its ambience: a sense of openness and space. And, more important, Betty observed that the campus remained unchanged in welcoming the ever-shifting spectrum of New York's bright children of immigrants and minorities.

Dr. Barry Hinderstein taught biology at the University of Saskatchewan, Sam Houston State University, and Texas Southern University. He was on the teaching and clinical faculty at the University of Texas Health Science Center

Houston—Dental Branch for 24 years. Dr. Hinderstein had a second career as a dentist in Texas and North Carolina. Dr. Betty Borowsky received her PhD from the CUNY PhD program, but her major adviser was based at City College. She was Director of Planning and Data Management at the Nassau County Health Department for many years, and is currently Professor of Biology at Nassau Community College.

Dr. Richard Borowsky received his PhD from Yale University, and is a Professor of Biology in the Center for Developmental Genetics at New York University. He studies the evolutionary genetics of cave adaptation in blind cave fish from Mexico, Brazil and southeastern Asia.

Dr. Jason Hecht earned his PhD in economics and is a Professor of Finance at Ramapo College in New Jersey. Suzanne Hecht has a Master's in Public Health in biostatistics from the University of Michigan and a Master's of Science in computer science from New York University, and is an adjunct instructor at Mercer County Community College in New Jersey. Both of the Hecht children are Queens College alums.

In 1964 Queens College was tuition free yet provided a rigorous liberal arts education that delivered the knowledge and intellectual tools not only for successful careers, but for fulfilling intellectual lives as well. The visitors were very pleased to find that, while no longer tuition-free, of course, Queens College still offers its students a similar high quality education at a very low cost.



**Alums tour of the Queens College campus. From left: Dr. Jason Hecht, Professor Emeritus Uldis Roze, Dr. Richard and Betty Borowsky, and Suzanne Hecht.**



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## GRADUATION AWARD HONOREES & DEGREE RECIPIENTS 2013–2014

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### HONOREES & DEGREE RECIPIENTS 2013–2014

**Laura H. and Arthur L. Colwin Prize**—Hannah Hong

**Charles Darwin Prize**—Elizabeth R. Fruchter

**Muriel and Philip Feigelson Award**—Vanessa M. Almonte and Lauren A. Esposito

**Donald E. Lancefield Award**—Daniel R. Haufe

### LIST OF GRADUATES

HH—with High Honors; H—with Honors; ΦBK—Phi Beta Kappa, the national honor society;

ΒΔΦ—Beta Delta Phi, the national Biology Honor Society

Jennifer Agudelo	Gracia Giron	Reshma Nair
Vanessa Almonte—H	Erika Goldsmith	Raul Nieto
Sara Alvarez	Shaina Golub	Amr Oquadid
Omair Anjum—HH	Jessica Gonzalez—H	Elizabeth Ohl
Joseph Arbelaez	Daneil Grossman	Alan Oustaev—H
Victoria Arrue	Antonio Guimaraes	Vlad Panaitescu—H
Muhammad Awan	Naaila Hassan	Emilin Pandian—H
Ilana Barta	Daniel Haufe - HH	Stephanie Parascandolo—H, ΒΔΦ
Shawna Benjamin—H	Lindawati Hermawan	Elizabeth Park
Deborah Berger	Monique Honeyghan—H	Stephen Pirpinias—H
Alexandra Berry	Seong Hong	Saidan Qi—H
Thomas Blakely	Hannah Hong—HH, BDP	Shameeza Razak
Catherine Bobea—H	MD Hossain—H	Ryan Rengifo—H
Drew Bradbury—H	Jenny Huang	Mohammad Ali Rizvi—H
Dina Calderon—H	Timothy Jiho Hwang—H	Ivana Roman—H
Dolores Calle	Karishma Iyer—HH	Sylvia Ronquillo
Ashley Carrasco	Nia Jagroop—HH	Lubna Salam
Christine Castiblanco	Elizabeth Jho	Stephanie Salarbux
Augusta Chipande	Chihyun Kang	Sumender Sharma—HH
Jeong Yeon Choi	Morinder Kaur	Christina Singh
Benjamin Cohen—H	Chaya Kazarnovsky—HH	Alyssa Stauber—H, ΒΔΦ
Anibal Davalos-Morinigo	Binu Koruthu	Julieana Steiner—H
Kimberly DeLeon	Grace Lee	Alan Thomas—H
Michael DeStefano—H	Victor Lee—HH, ΒΔΦ	Ivonne Uquillas—H
Nastassja Earle	Oren Levi—HH	Michelle Velasquez
Tiffany Edwards	Shoshana Levine	Sheila Villacis—H
Lauren Esposito—H	Efia Lewis	Qian Wang
Daniel Floda	Cindy Lin	Kenneth Wittig—H
Ezra Frager—HH	Nilofer Lodhi	Diane Yee
Rachel Friedman	Susanna Miao	Nataliya Zakharchuk
Elizabeth Fruchter—HH, ΦBK, ΒΔΦ	Carolina Montoya—H	Gabriel Zavurov
Jenica Gheorghita	Maryam Mudasir—HH, ΒΔΦ	
Melissa Giraldo	Guy Murolo	

### MASTER'S DEGREE RECIPIENTS

Katrina Blankenhorn	Jonathan Goldstein	Johanna Navarro
Kelly Tatiana Garces-Trujillo	Dinah Han	Maria Palacios
Riti Chhibba	Kristen Ho	Carlos Romero
Sandra Giraldo	Salaheddine Hragua	Beata Rozbicka Sadigh
Golnoush Golshan	Sonia Nagvenkar	Maylayal Salameh

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## BIOLOGY ALUMNI FUND DONATIONS FY2014

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In FY2014, 60 alumni and one corporate matching gift (names listed below) donated a very generous **\$16,075.50**. As always, your gifts impact the Department's discretionary activities. This newsletter highlights some examples of where your funds are utilized, most notably our weekly Biology Colloquium series of research presentations by visiting scientists, undergraduate student research and travel to scientific conferences, and supplements to undergraduate student graduation awards. Alumni Funds Awards are reviewed by the Department's Alumni Funds Advisory Committee, which makes recommendations to the Chair. We greatly appreciate your support. Thank you!

### DONORS LIST FY2014

#### **\$5,000+**

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## LETTER FROM THE EDITOR

continued from page 1

In recognition of the importance of original research in a quality education, Queens College began awarding Undergraduate Research Grants about five years ago. These grants provide a small amount of funding to a select few students in all fields, not just science, to fund their research and attend conferences. Biology's Dr. John Dennehy has been appointed Director of Undergraduate Research for the college (see article in this issue) and is initiating several programs to enhance this important aspect of student education. CUNY has also recognized the importance of undergraduate research in a quality education and recently founded the CUNY Council on Undergraduate Research. Faculty, like Dr. Dennehy, from the undergraduate campuses work to develop CUNY-wide funding opportunities, coordinate efforts, and explore what works best for CUNY's urban student population.

Why original research? The answer is that original research teaches the scientific method and critical thinking by doing. Developing and testing a hypothesis is the foundation of the scientific method and is an

essential component of training an independent thinker whether a scientist or not. Students learn how scientific information is generated and how to critique their own and others' results. Finally, our students are encouraged to present their work in research reports, seminars, and posters in various public venues. These are unique experiences that develop confidence and poise that will benefit them throughout life.

*Biology Currents* is one way of keeping abreast of the activities of the Biology Department. I encourage you to check the Department's web page at <http://biology.qc.cuny.edu/> for more up-to-date information. If you have a brief update that you would like included in an **ALUMNI UPDATE** or feel that your career would be a great read in **CAREER STORIES**, we need to hear from you! Please send me a brief text in the body of an email that I can copy and paste. My email address is [Corinne.Michels@qc.cuny.edu](mailto:Corinne.Michels@qc.cuny.edu) and use "Biology Alum" in the subject line.

Regards,  
Dr. Corinne A. Michels, Class of '63  
*Distinguished Professor Emerita*

## JOSÉ ANADÓN

continued from page 2

an introspective activity, even if you work in a team, and it is rewarding mostly in the long term. On the contrary, teaching is based on communicating with others and the rewards come right in class." He looks forward to teaching BIOL 241, a course on Field Methods in Biology, where students learn field-sampling techniques and how to analyze their data using computational or statistical methods.

Dr. Anadón is particularly proud of the research team he is building at Queens College. They are carrying out a balanced mix of local and more global research projects. He lists a few examples. Dr. Anadón is taking part in a study of the ecology and conservation of vultures along the eastern coast of the U.S. and in Nepal, a project that is a component of a larger USAID project in collaboration with faculty at City College. In collaboration with Biology's John Waldman, he is analyzing changes that have taken place over the last 30 years in the fish communities of Jamaica Bay, a research project that has been awarded a grant by the Science and Resilience Institute of Jamaica Bay (see **FACULTY IN THE NEWS**). With John Dennehy (Biology) and Jeff Bird (School of Earth and Environmental Sciences), he is determining the impact of urbanization on soil microbial communities spanning Long Island.

Dr. Anadón is also involved in a joint investigation with Professor Burke of Hofstra University on the population dynamics of the terrapins in Jamaica Bay. In his lab they are addressing the impact of climate change on plants in Mexico and the ecology of biological invasion of birds in Europe. All of these research projects are in the initial phases. As Dr. Anadón explains it, "we are in that special research stage where we are doing field work, collecting data, and discovering exciting questions and possibilities." His research team is growing and welcomes participation by students at all levels.



Interior view of the new Science Building