



# BIOLOGY CURRENTS

## LETTER FROM THE CHAIR

Dear Biology Department Alums and Friends:



I recently attended an alumni event for medical doctors at the residence of Queens College's President James Muyskens. It was a wonderful evening, and I was particularly pleased to meet the Biology alums, one of whom graduated in 1943! Reminiscences of their college days inevitably led to the lasting impacts of Biology faculty members, notably Dave

Alsop and his cockroaches, Jon Sperling and his fantastic stories of nature, Marv Wasserman's fruit-fly experiments, and a "wonderful woman who taught physiology" (probably Ethel Glancy who taught Biology 32, Human Physiology, in the early days of the Biology Department). One alumnus, who now specializes in pain management, recounted how he nearly roasted a breeding pair of *Drosophila* mutants that he had brought home over spring break. Another remembered taking Genetics lab class with me, calling it "an oasis" in the midst of her hectic day! I was particularly gratified to speak to Dr. Sheryl Haut, Associate Professor of Neurology at the Albert Einstein College of Medicine and Montefiore Medical Center. Dr. Haut conducted research with me as an undergraduate student and co-authored a journal article with me and others. The interest in research that was ignited in my lab is continuing, although she now studies epilepsy instead of yeast genetics. Most gratifying to me was how these alums remembered the strong educational foundation they received at Queens College, and that it was clearly equal if not superior to the ones received by their medical school classmates who had attended "prestigious undergraduate institutions." I found the same to be true from my own experience in the doctoral program at Columbia University.

As you peruse this issue of *Biology Currents* and note the impressive accomplishments of our faculty, you should be assured that the current Biology Department is as dedicated to providing a quality education and preparing our graduates for careers in the rapidly advancing fields of the life sciences as the faculty you remember. Although our undergraduate curriculum still covers "the basics," it has evolved. "The

basics" now includes courses in fields that did not exist a decade ago. Cell Biology, which was not taught at the undergraduate level until about 15 years ago, is one of our "Principles" courses and is taken by over 120 students each year. Embryology, which was one of the staple courses in the curriculum several decades ago, is no longer offered. Study of the embryo is now incorporated into Comparative Anatomy as well as Developmental Biology, which integrates classical embryology with a survey of the underlying cellular and molecular mechanisms. New fields like genomics and bioinformatics, which did not exist until the advent of biotechnology and computer technology, have been catapulted to the forefront of the life sciences—and are poised to transform medical diagnostics and healthcare in the near future. This semester we are offering for the first time an undergraduate course in bioinformatics. So far, it is well-received.

Yes, solid coursework in the basics is essential for a sound education—but is it enough? Today's graduate is likely to have a career that spans 50 years or more. Thus, we must train lifelong learners—critical thinkers who know how new scientific information is generated and who can evaluate its validity. We believe that one of the best ways to accomplish this goal is by actively integrating our undergraduate students into faculty research programs. This issue of *Biology Currents* highlights some of our ongoing efforts in this area. "Faculty Notes" summarizes the professional activities of our faculty beyond their publications, which are listed separately. Participation at scientific conferences and successful competition for the increasingly scarce federal and private research funding is a reflection of the caliber of our faculty and their impact on their respective research fields. Our students, both undergraduate and graduate, participate in faculty research programs (noted as undergraduate<sup>U</sup>, master's<sup>M</sup>, doctoral<sup>D</sup>, and high school<sup>HS</sup> students). They often attend conferences with their mentors, and their contributions are acknowledged by authorship on presentations and publications. Expect to read more about student research activity in future issues.

The Biology Department is committed to expanding opportunities for our undergraduates to participate in original research projects. Undergraduates can earn credits toward their bachelor's degree for taking research courses in the Biology Department or through the Honors in Mathematics and Natural Sciences Program. Their research projects are supported by faculty research grants. The Honors Program is supported in part by a grant to the college from the Howard Hughes Medical Institute, which funds summer stipends for undergraduates working with the college's science fac-

ulty. The college also is the recipient of a Minority Access to Research Careers (MARC) award from the NIH (Prof. Zahra Zakeri, Director), and an NSF Undergraduate Research Mentorship (URM) grant (Prof. Stéphane Boissinot, Director), that provide fellowships, tuition, and research stipends for student participants. Biology faculty members also participate jointly with Queensborough Community College and LaGuardia Community College in NIH Bridges to the Baccalaureate Degree Programs and with Queensborough Community College on an NSF STEM grant. These grants are designed to give transfer students from community colleges a head-start in a research career, and help in their search for research mentors at Queens College.

Thank you to all who contributed so generously to the Biology Department during the 2007–2008 Queens College Foundation fund-raising drive. These funds supplement our department's discretionary budget, and provide the resources needed to fund projects that enrich the educational environment and our students' college experience. You should also be aware that the department allocates half of each year's contributions to a Biology Alumni Endowment Fund. This fund is placed in an interest-bearing account, which generates a stable source of funding to support our student and educational programs. When you give, you contribute to the department's future development.

I hope you enjoy reading *Biology Currents*. We would love to hear from you. What are you doing? What do you think of what we are doing? What changes would you like to see?

Sincerely,  
Corinne A. Michels, PhD (Class of '63)  
Distinguished Professor  
Chair of Biology

## NEW FACULTY MEMBERS



### Dr. Alicia Meléndez

Dr. Alicia Meléndez spent the first 18 years of her life in San Juan, Puerto Rico, where she attended an English-language high school. She came to the mainland for her college education at Princeton University. At Princeton, she was initially torn between studying Biology or Political Science. She eventually settled

on the former because individual research and completion of an undergraduate thesis is a part of the Biology requirement. Undergraduate students must seek a mentor and conduct research in a laboratory. Dr. Meléndez's research mentor was the developmental biologist Eric Wieschaus, who was awarded the Nobel Prize for Physiology or Medicine in 1995 for his groundbreaking work on *Drosophila* embryology. The Wieschaus lab-

oratory was active and adventurous, buzzing with excitement and pushing the frontiers of molecular biology in many areas. It was her immersion in this environment that consolidated Dr. Meléndez's determination to follow a path in science. She recalls with great fondness this phase of her career, and strives to bring some of the features of the Princeton model to Queens College.

From Princeton, Dr. Meléndez moved to graduate school at Columbia University, where she continued with her interest in molecular genetics in the fruit fly. After graduation, Dr. Meléndez remained at Columbia but shifted her experimental organism from *Drosophila* to the nematode *Caenorhabditis elegans*, and cloned *lin-13*, a member of the LIN-35 Rb class of genes involved in vulval development. She next became interested in the genetic basis of autophagy, which remains a focus of her research program today. Autophagy—literally self-eating—is a highly conserved and critical cellular activity found in practically all animals. On the one hand, it is a routine house-cleaning function that allows cells to degrade unwanted intracellular proteins, organelles, or other particulate structures. On the other hand, it is a part of the normal stress response mechanism. Under stress, cells express only absolutely essential proteins and organelles and degrade by autophagy non-essential ones in order to conserve resources. Autophagy is therefore critical for survival, but its regulation is not well understood.

Interestingly, autophagy also appears to play a role in determining longevity! In *C. elegans*, life-span extension and the capacity for dauer formation (a stage of developmental arrest) involves autophagy. Dr. Meléndez hypothesizes that autophagy may prevent or slow age progression by maintaining cellular homeostasis and degrading damaged proteins and organelles. In *C. elegans*, this process is mediated by a number of genes, most notably *bec-1*, the *C. elegans* ortholog of the human tumor suppressor gene *beclin 1*, and the yeast gene *atg6*. At Queens College, Dr. Meléndez plans to uncover the role of *bec-1* in normal development, and to extend her investigation into other genes that play a similar role. The potential connections are profound, from tumor biology to neurodegenerative diseases to life-span extension.

Since coming to Queens College, Dr. Meléndez has received an NIH supplement award in collaboration with Dr. Monica Driscoll at Rutgers University. She has also received the prestigious Ellison Medical Foundation New Scholar Award, and an NSF Research Initiation Grant to fund research into molecular mechanisms that may help explain the connection between obesity, age, and the onset of Type II diabetes.

Dr. Meléndez has taught the undergraduate course on laboratory techniques in molecular biology, an advanced undergraduate course on molecular genetics, and the graduate course in molecular genetics. Recalling the enormous impact of an undergraduate laboratory experience in her own career, Dr. Meléndez strives to offer the same opportunity to her students at Queens. Furthermore, prompted by her own roots in San Juan, she would like to see the whole American educational system, from kindergarten to graduate school, more inclusive in its embrace.



**Dr. Else  
Fjerdingstad –  
Myrer er sjove**

Dr. Else Fjerdingstad joined the Biology Department in January 2007. She comes to us from the Pierre and Marie Curie University in Paris, where she was a post-doctoral researcher in the Laboratory of Ecology from 2002 to 2006. Prior to her work in Paris, Dr. Fjerdingstad spent time down under as a postdoctoral researcher in the Department of Evolution at the University of LaTrobe in Melbourne, and at the School of Tropical Biology at James Cook University in Townsville, Australia. Before that, she worked at the Institute of Ecology and Evolution at the University of Lausanne in Switzerland.

The globe-trotting started in the United States, where Dr. Fjerdingstad was born, although she completed most of her education in Europe. She received her Master of Science and Doctor of Philosophy degrees at the University of Århus, Denmark, where she worked under the supervision of Dr. Jacobus Boomsma studying the evolutionary ecology of leaf-cutter ants of the genus *Atta*. She has focused her interests on ants as model systems for evolutionary ecology and evolutionary genetics ever since.

The aim of evolutionary ecology and genetics is to understand how the complex biological world that surrounds us originated, how it is maintained, and how it changes. Societies of living organisms vary in size and complexity, from simple metazoans that comprise only a few cell types, to the teeming colonies of eusocial insects—often referred to as super-organisms—that consist of tens of thousands of individuals. From the evolutionary point of view, insect societies are particularly intriguing because kinship and social interaction introduce new layers of complexity that are subject to biological selection. The behavior of individuals influences society, which in turn affects individuals, making individuals subject to social selection as well as direct selection. Understanding the evolution of life-history traits in social organisms is therefore especially challenging.

Dr. Fjerdingstad's research program focuses on the evolution of reproductive strategies, sociality, and host-parasite co-evolution. She is particularly interested in how sociality influences the evolution of reproductive strategies, how selection on reproductive strategies affects social evolution, and how host-parasite co-evolution affects both of these aspects.

As test systems, Dr. Fjerdingstad mainly uses the advanced social hymenopteran insects—ants, bees, and wasps. These insects maintain highly cooperative societies characterized by labor and reproductive specializations among females.

Their mating and breeding strategies are amazingly diverse. Dr. Fjerdingstad seeks to elucidate the evolution of multiple mating by social insect queens, social conflicts over resource allocation, the evolution of caste diversity, genetic variance in dispersal syndromes, and the importance of competition versus cooperation for dispersal strategies. To address such a broad spectrum of questions, Dr. Fjerdingstad combines a variety of techniques that span ecology, ethology, molecular biology, and computer modeling.

Dr. Fjerdingstad has worked on ants from all over the world. Some of her studies have concerned Panamanian fungus-growing *Atta* ants and European black garden ants, *Lasius niger*. Over the past two years, four undergraduate and three master's-level students have joined her in these endeavors. This past summer, she took several students with her on a collecting trip in central Europe. Dr. Fjerdingstad's choice of study organism is perhaps not an accident. She recalls that the first book she ever read as a child was *Myrer er sjove!* (Ants are fun!) in Danish.

Since joining the department, Dr. Fjerdingstad has offered both graduate and undergraduate courses. She currently teaches *Principles of Evolution*, one of the core courses for biology majors. As the great evolutionary geneticist Theodosius Dobzhansky famously said, "Nothing in biology makes sense except in the light of evolution." Evolution is a unifying concept. It plays a critical role in the undergraduate curriculum by providing the framework in which other areas of biology are tessellated. By all accounts, Dr. Fjerdingstad's instruction has engaged students and fostered greater appreciation of the natural world.

## FACULTY NOTES 2007

Mitchell Baker received a one-year \$101,965 grant from the National Science Foundation to complete studies on "Creating Clines to Measure Dispersal." Dr. Baker's research on "Rotation, Distance, and Insecticide Resistance in the Colorado Potato Beetle" was also supported by an \$8,867 grant from the Northeast Region Sustainable Agriculture Research and Education Program, USDA-CREES. Dr. Baker was invited to speak on his research at the Animal Behavior Society Meeting, Burlington, VT, at the Long Island Agriculture Forum, Riverhead, NY, and at the Ecological Society of America and INTECOL 2007, held in Montreal, Quebec. Dr. Baker and his students Karyn Collie<sup>D</sup> and Bushra Wazed, a Townsend Harris High School student, presented posters on their research at the Animal Behavior Society Meeting in Burlington, VT. Ms. Wazed's poster, entitled "Reduced Immune Function as a Cost of Resistance to Insecticides," was awarded 2nd place in the Genesis Undergraduate Poster Competition.

**Stéphane Boissinot** was awarded a two-year renewable grant of \$252,185 from the NSF's Undergraduate Research Mentorship program. The award, entitled "Mentoring Urban Undergraduate Students in an Integrated Ecological Research Experience" will fund field research and college-based activities for 6–8 undergraduates under the guidance of faculty mentors. Fieldwork will be done at sites around the world including Ethiopia, Europe, and Israel. In addition, Dr. Boissinot organized the 2007 Annual New England Molecular Evolutionary Biology meeting, which was held at Queens College in the Science Building and attended by over 140 biologists from all over the world. Dr. Boissinot's students Ann Duong<sup>U</sup>, Bill Ferguson<sup>D</sup>, Peter Novick<sup>D</sup>, and Akash Sookdeo<sup>U</sup> presented posters on their research at the conference. Dr. Boissinot and students Bill Ferguson<sup>D</sup>, Shira Dvora<sup>U</sup>, and Peter Novick<sup>D</sup> also attended the annual meeting of the Society for Molecular Biology and Evolution at Dalhousie University in Halifax, Nova Scotia, where they presented research posters that included the work of undergraduates Ann Duong, Ross Radusky, and Akash Sookdeo. Shira Dvora's travel was supported by an award from the Society for Molecular Biology and Evolution. William Ferguson received an award for best poster by a graduate student. In addition, Dr. Boissinot gave invited oral presentations at the FASEB Summer Research Conference on Mammalian Mobile Elements, held in Tucson, AZ; the Brooklyn College Department of Biology seminar series; the American Museum of Natural History Systematics Seminars; and at the SUNY–Stony Brook Department of Ecology and Evolution seminar series.

**John Dennehy** attended the Gordon Research Conference, Microbial Population Biology in Andover, NH, and the New England Molecular Evolutionary Biology meeting in Flushing, NY, where he made poster presentations on his research.

**Else Fjerdingstad** was invited to speak on her research on the evolution of female mating strategies in social insects at the School of Biology, Georgia Technical University, Atlanta.

**Michael Hickerson** gave several invited special seminars on his research on comparative phylogeographic hypotheses and hierarchical Bayesian models at the Biology Department of the College of Staten Island, CUNY, the Biology Department of Boston University, the Ecology and Evolution Department of SUNY–Stony Brook, and the Peabody Museum of Yale University, New Haven, CT. He also spoke on his research at the annual meeting of the 2007 Annual New England Molecular Evolutionary Biology meeting in Flushing. In addition, Dr. Hickerson attended the meeting of the International Society of Biogeography held in Tenerife, Spain, where he presented a poster on an analysis of diversification in mammals and reptiles of Baja California, Mexico.

**Nathalia Holtzman** gave a number of invited special seminars on her research and on her science-teaching techniques and philosophy at the New York Academy of Science in Manhattan; the Molecular Biology Institute Cell and Tissue Engineer-

ing Workshop held in Columbus, OH; the Strategic Conference of Zebrafish Investigators in Asilomar, CA; the New York City Zebrafish Group; and the City College, CUNY Biology Department Colloquium series. Dr. Holtzman and her students James Carpino<sup>D</sup>, Primilene Courtney<sup>D</sup>, Corinna Singleman<sup>U</sup>, and Kevin Werkheiser<sup>D</sup> presented posters on their research at the Strategic Conference of Zebrafish Investigators, Asilomar, CA; the Developmental Biology Gordon Conference, Andover, NH; and the Mid-Atlantic Regional Society for Developmental Biology, Princeton, NJ, which Ms. Singleman attended.

**Alicia Meléndez** was awarded a one-year grant of \$136,603 from the Aging Institute of the National Institutes of Health for work to be done in collaboration with Dr. Monica Driscoll of Rutgers University. The overall goal of the project is to identify factors that promote or limit life span with an emphasis on genetic influences on age-associated muscle decline, sarcopenia. Dr. Meléndez also presented posters on her studies of the functions of the *bec-1* gene of *C. elegans* at the Keynote Symposia on Autophagy in Ventura, CA, and the 16th International *Caenorhabditis elegans* meeting in Los Angeles.

**Corinne Michels** and her doctoral student Fulai Ran attended the Yeast Cell Biology meeting held at the Cold Spring Harbor Laboratories, NY, where they presented a poster on their research on the role of the Hsp90/Hsp70 molecular chaperones in the regulation of maltose induction of the *Saccharomyces MAL-activator*.

**Uldis Roze**, Professor Emeritus, gave a talk at the Goddard Library of Clark University in Worcester, MA entitled "Travels with a Porcupine."

**Cathy Savage-Dunn** and her doctoral student Jianghua Yin attended the FASEB Conference on the TGF- $\beta$  Superfamily: Signaling and Development in Tucson, AZ, where she presented a talk and he presented a poster. Dr. Savage-Dunn and her students Jianghua Yin<sup>D</sup> and Thillini Ediriwickrama<sup>D</sup> also attended the 16th International *Caenorhabditis elegans* meeting in Los Angeles, CA. Both students presented posters on their thesis research on the role of TGF- $\beta$  signaling in the regulation of gene expression and the function of Sma genes in controlling *C. elegans* development and body size. In addition, Dr. Savage-Dunn made a poster presentation on related research on TGF- $\beta$  signaling with students Edlira Yzeiraj<sup>U</sup> and Mariya Fabisevich<sup>U</sup>.

**Joni Seeling** was awarded a research grant by the National Science Foundation to pursue research on the "Molecular Characterization of the Influence of B56 Regulatory Subunits of Protein Phosphatase 2A on Wnt Signaling." Dr. Seeling was invited to speak on her research as part of several seminar series: the Department of Biological Sciences of St. John's University, NY, the Department of Biology and Molecular Biology of Montclair State University, NJ, and the Biology Department of City College, CUNY. Dr. Seeling attended and made poster presentations on her research with Sungmin Baek<sup>M</sup> and Evelyn

Teran<sup>U</sup> at the Wnt Meeting at the University of California—San Diego, La Jolla, CA and the Society for Developmental Biology Mid-Atlantic Regional Meeting, Princeton University, Princeton, NJ.

**Timothy Short** made a poster presentation at the Annual Meeting of the American Society of Plant Biology (a joint meeting with the Botanical Society of America/Fern Society), in Chicago on his research on *Ceratopteris richardii* with students Abeer Mohamed<sup>D</sup> and Anna Nugent<sup>D</sup>.

**John Waldman** gave special invited talks on fish population biology and conservation biology of western Long Island Sound, the Hudson River estuary, and greater New York Harbor at the Hempstead Harbor Angler's Club in Glen Head, NY; the Columbia University Seminar on Population Biology; and the Watershed Biodiversity Summit held at the Prospect Park Audubon Center. He also participated in the Environmental Roundtable of the New York Harbor Parks Conservancy and Partnership for New York City. Dr. Waldman's research with master's-level student Colin Grubel on diet and other aspects of the life history of the cormorants of New York Harbor was presented at the Marine Resources Advisory Council meeting in East Setauket, NY, and at the Annual Meeting of the Working Group on Cormorants and Other Colonial Water birds of NY/NJ Harbor. A special article on this work, entitled "Like Ducks and Penguins, with Nervous Stomachs," appeared in the August 22, 2007 *New York Times* and can be found at <http://www.qc.cuny.edu/Biology/cormorants-NYT-with-photos.pdf>.

**Daniel Weinstein** successfully received a competing renewal of his National Institutes of Health research grant, entitled "Signaling Mechanisms Coordinating Cell Fate Determination and Morphogenesis," for a total of \$792,000 over the four-year period of the award. This grant was transferred from Mount Sinai School of Medicine to Queens College when Dr. Weinstein joined our faculty. Dr. Weinstein also presented a special invited seminar on this research in the Hunter College Biology Department Seminar series.

**Zahra Zakeri** was the organizer of several international research conferences: the Stanley J. Korsmeyer Symposium on Cell Death and Cancer held at the Conference Center at Harvard Medical School; the Satellite Meeting on Cell Death and Cancer in Nice, France; the Keystone meeting on Apoptotic and Non-Apoptotic Cell Death Pathways in Keystone, CO; and the Second International Symposium of Molecular Technology (Biotechnology in Progress) meeting on Basic and Clinical Aspects in Tehran, Iran. Dr. Zakeri, along with Susan Croll (PI) of the Queens College Psychology Department, and Pat Rockwell of Hunter College, was awarded a three-year \$150,000 research award from NIH to study signaling mechanisms in neuronal protection. Dr. Zakeri also spoke on her research on the cell cycle and cell death in viral infection at the Universidad de Chile, the Keystone Symposium on Apoptotic and Non-Apoptotic Cell Death Pathways, and the Institute Pasteur, France.

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## BIOLOGY ALUMNI FUND

During the calendar year 2007, 81 of our alumni donated a very generous \$15,108.33, including contributions from three corporations with matching funds policies (Pfizer Inc., Amgen Foundation Inc., and Abbott Laboratories Fund). Your gifts are a valued source of discretionary funds that are used to enhance the activities of the department, including presentations by visiting scientists, faculty recruitment, support of student and faculty research and travel to scientific conferences, as a supplement to student graduation awards, and for special events. We greatly appreciate your support.

### LIST OF DONORS

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## SELECTED 2007 BIOLOGY DEPARTMENT PUBLICATIONS

### BOOKS:

Chabora, P. C. 2007. *The Laboratory and Lecture Synthesis*, Second edition. Cengage (Thomson Publishing). 400p.

### PEER-REVIEWED PUBLICATIONS:

Baker, M. B., A. Alyokhin, A. H. Porter, D. N. Ferro, S. R. Dastur, and N. Galal, 2007. Persistence of costs of resistance to imidacloprid in the Colorado potato beetle, *Leptinotarsa decemlineata* (Say). *Journal of Economic Entomology* 100:1871–1879.

Song, M. and S. Boissinot, 2007. Selection against LINE-1 retrotransposons results principally from their ability to mediate ectopic recombination. *Gene* 390:206–213.

Dennehy, J.J., S.T. Abedon, and P.E. Turner, 2007. Host density impacts relative fitness of bacteriophage  $\phi 6$  genotypes in structured habitats. *Evolution* 61:2516–2527.

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Spear, R.L., R. Tamayev, K.R. Fath, and I.A. Banerjee, 2007. Templated growth of calcium phosphate on tyrosine derived microtubules and their biocompatibility. *Colloids Surfaces B: Biointerfaces* 60:158–166.

Fjerdingstad, E.J., N. Schtickzelle, P. Manhes, A. Gutierrez, and J. Clobert, 2007. Evolution of dispersal and life history strategies — *Tetrabymena ciliates*. *BMC Evolutionary Biology* 7: 133. DOI:10.1186/1471-2148-7-133 (15pp).

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Rosenblum, E., M.J. Hickerson, and C. Moritz, 2007. A multilocus perspective on colonization accompanied by selection and gene flow. *Evolution* 61:2917–2985.

Leaché, A., S.A. Crews, and M.J. Hickerson, 2007. Two waves of diversification in mammals and reptiles of Baja California revealed by hierarchical Bayesian analysis. *Biology Letters* 3:646–650.

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Liang, J., L. Yu, J. Yin, and C. Savage-Dunn, 2007. Transcriptional repressor and activator activities of SMA-9 contribute differentially to BMP-related signaling outputs. *Developmental Biology* 305:714–725.

McGovern, M., L. Yu, M. Kosinski, D. Greenstein, and C. Savage-Dunn, 2007. A role for sperm in regulation of egg-laying in the nematode *C. elegans*. *BMC Developmental Biology* 7: 41 (10pp).

Baek, S. and J.M. Seeling, 2007. Identification of a novel conserved mixed isoform B56 regulatory subunit and spatiotemporal regulation of protein phosphatase 2A during *Xenopus laevis* development. *BioMed Central Developmental Biology* 7:139 (15 pp).

Morgan, E.C. and J.A. Sperling, 2007. New species of *Dracontium* (Araceae) from Iquitos, Peru. *Aroideana* 90:53–57.

Morgan, E.C., J.A. Sperling, and J. Borysiewicz, 2007. The bryophytes of Bartlett Arboretum Forest, Stamford, Connecticut - including a comparison to other local floras. *Evansia* 25:8–11.

Grunwald, C., L. Maceda, J. Waldman, J. Stabile, and I. Wirgin, 2007. Conservation of Atlantic sturgeon *Acipenser oxyrinchus*: delineation of stock structure and distinct population segments. *Conservation Genetics* 8:1566–1572.

Wirgin, I., C. Grunwald, J. Stabile, and J. Waldman, 2007. Genetic evidence for mid-Atlantic coast relict Atlantic sturgeon stocks. *North American Journal of Fisheries Management* 27:1214–1229.

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Haremaki, T., S.T. Fraser, Y-M. Kuo, M.H. Baron, and D.C. Weinstein, 2007. Vertebrate Ctr1 coordinates morphogenesis and progenitor cell fate and regulates embryonic stem cell differentiation. *Proc. Natl. Acad. Sci. USA* 104:12029–12034.

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McLean, J.E., A. Ruck, A. Shirazian, F. Pooyai-Mehyr, and Z. Zakeri, 2007. Viral manipulation of cell death. *Current Pharmaceutical Design, Issue: Mechanisms and Implications of Cell Death in Life Evolution* 14:198–202.

Penaloza, C.; S. Orlanski, Y. Ye, T. Entezari-Zaher, M. Javdan, Z. Zakeri, 2007. Cell death in mammalian development. *Current Pharmaceutical Design, Issue: Mechanisms and Implications of Cell Death in Life Evolution* 14:184–96.

## GRADUATES • SEPTEMBER 2007–JUNE 2008

Thayaparan Balakumar, *Honors*  
 Jorge Barahona  
 Ayesha Chohan  
 Oscar Corzo, *High Honors*  
 Lam Dang  
 Yuriy Dekhkanov, *High Honors*  
 Karen Gopaul  
 Bo-Kyung Jung, *Honors*  
 David Kay, *Honors*  
 Fahmida Khan, *Honors*  
 Joyce Kong  
 Chung Hin Lau, *High Honors*  
 Eun Lee  
 Reeju Lukose  
 Julia Lustig, *Honors*  
 Alber Michael  
 Steve Milord  
 Kaishrie Misir

Ciro Monaco, *Honors*  
 Ameer Mourad, *High Honors*  
 Spyridon Mouzakitis, *Honors*  
 Indira Mukherjee  
 Johanna Navarro, *Honors*  
 Raul Nieto  
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## BIOLOGY CURRENTS

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## ALUMNI QUESTIONNAIRE

We want to keep in touch! If you just wish to say hello, or tell us what is new in your life, please fill in the information below and return to: Professor Corinne Michels, Department of Biology, Queens College, Flushing, New York 11367. Alternatively, you can keep in touch online by going to: [http://www.qc.cuny.edu/QCF/public\\_html/cgi-bin/BIO.php](http://www.qc.cuny.edu/QCF/public_html/cgi-bin/BIO.php).

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