



Dear Alumni and Friends of the Department of Biological Sciences

It is my privilege to send you the newest edition of BioNews, the annual newsletter of the Department of Biological Sciences at the University at Buffalo. We hope that this newsletter is informative and of interest to you.

As you can see by the number of articles included in this year's newsletter, 2013 was an eventful and very productive year for the Department. While details are provided below, there are a few things I would like to call to your attention. First, we were proud to celebrate the 10th anniversary of our Distinguished Alumni Seminar Series. Through the hard work of Professor Ronald Berezney, this series was initiated in 2002 to honor past students in our Department who have gone on to distinguished careers in the biological, biomedical and related fields. In addition to giving a talk on their most recent, exciting work, each invited speaker spends a day meeting with faculty in our Department to renew old acquaintances and establish new ones. Most importantly our distinguished guests meet with our current students so that they can get career tips from their successful 'forebears'. This year's speaker, Dr. Chung-Mo Park brought the total number of honorees to 12. Profiles of each of the "Distinguished Dozen" are provided below. We are honored these individuals were able to come back to UB and share their knowledge and wisdom.

Speaking of UB-BIO alumni, that number took a significant leap this past year! The graduating class of 2012/13 earned a total of 177 Bachelors degrees this year. This total is 16% higher than the number conferred in 2011/12 and is almost three times higher than the number conferred just 6 years ago! Since the number of BIO majors has more than tripled over the last six years, we project that the explosive growth in the number of Department of Biological Sciences grads is likely to continue for quite a while. Not only is the Department of Biological Sciences graduating more students, these students are among the highest caliber in the University! As evidence of that, 12 BIO seniors graduated Magna cum laude, 21 graduated summa cum laude and 36 graduated cum laude.

Therefore 38% of our students graduated with honors. Also, these new degree holders included 18 new invitees to Phi Beta Kappa, who join the 10 members of the senior class invited to membership last year! Congratulations are in order for this high-achieving group of students! Mirroring the popularity of our undergraduate programs, our graduate degree programs also continued on their path of sustained growth. Coupled with this growth we have seen a substantial increase in the overall quality of our enrolled students, the number of graduate degrees awarded and the quality of job and other placements, post-degree.

We attribute the extraordinary growth in our training programs to two things. First is world-wide recognition of the quality of the degree that is earned from our Department. That quality is validated every day, across the globe through the highly innovative work and scientific leadership of alumni like you. We believe those qualities come from our strong focus on providing our students with broad and deep hands-on training in all areas of modern biological sciences. This training allows our graduates to not only keep up with the accelerating pace of discovery in all fields of life sciences, but to become the new leaders in the field of biology in the 21st century. We are proud and inspired by the accomplishments of ALL our current alumni and are excited to see what new frontiers our future graduates will explore.

In closing I hope you find this latest issue of BioNews both enjoyable and informative. As always I welcome your comments and questions. If you desire further information on any aspect of our Departmental activities or future directions, I invite you to contact me directly. We look forward to hearing from you or seeing you at our next departmental event.

Happy reading!

Gerald B. Koudelka, Ph.D.
Professor and Chair

Faculty News . . .

Promotions

Dr. Denise Ferkey has been promoted to Associate Professor with tenure effective spring 2013. Dr.



Ferkey joined the department as an Assistant Professor in August 2006 after having completed a postdoctoral research fellowship at Harvard Medical School and Massachusetts General Hospital Cancer Center. Her lab utilizes

behavioral, genetic, biochemical, cellular and molecular methods to understand how sensory signals are processed and regulated in the nervous system of the small round worm (nematode) *Caenorhabditis elegans*. One area of research in her lab focuses on the neurotransmitter molecule dopamine. Signal transduction pathways utilizing dopamine have been linked to processes such as learning and memory, and errors in these pathways are associated with neurological disorders including Alzheimer's disease, Parkinson's disease, schizophrenia and drug addiction. However, the incredible complexity of the human brain has left the physiological basis and molecular mechanisms underlying these complex diseases largely unknown. For example, although Parkinson's disease is characterized by a progressive loss of the dopamine-producing neurons in the brain, it is

largely unknown how loss of the neurotransmitter dopamine ultimately contributes to the disease's symptoms. The Ferkey lab has uncovered a role for dopamine in the modulation of chemosensory signaling in *C. elegans* and is working to characterize dopamine's role in the regulation of sensory signaling, as well as the mechanisms by which the dopamine signal is itself regulated. These are critical first steps in the discovery of new avenues for drug development and therapy for human neurological diseases such as Parkinson's disease.

Since joining UB, she has taught in BIO367 (Developmental Biology), and BIO406/506 (Signal Transduction). She has developed two graduate level literature-based courses, "Topics in Signal Transduction", and "Genetic Approaches to Understanding Animal Behavior". Upon taking over as course coordinator for BIO367 in the spring of 2008, she significantly restructured the course. Students critically evaluate the outcome of experiments in developmental biology and apply this knowledge to novel problems; they also gain an appreciation for how abnormal developmental processes can lead to human diseases such as cancer.

Dr. Ferkey's research has been funded by the Ellison Medical Foundation (4 years, \$200,000) and the National Science Foundation (4 years, \$744,973)

Faculty News . . .

Promotions con't

Dr. Michael C. Yu was promoted to Associate Professor effective September 2013. He began his career at UB as an Assistant Professor after his post-doctoral training at Harvard Medical School/Dana-Farber Cancer Institute. The Yu lab's research focuses on how a



modification called protein arginine methyla-

tion controls various facets of eukaryotic gene expression, using both the budding yeast and human cell cultures as model systems. Dr. Yu's lab is currently supported by an NSF grant entitled "The Role of Protein Arginine Methylation in the Co-transcriptional Recruitment of pre-mRNA Splicing Factors". In July, Dr. Yu's lab graduated its first Ph.D. student, Eric Milliman. Eric has joined Dr. Trevor Archer's laboratory at the National Institute of Environmental Health Sciences as a post-doctoral fellow, studying chromatin and gene expression in eukaryotes. Dr. Yu currently serves as Director of the Graduate Affairs Committee.

In the news

Dr. Victor Albert, Empire Innovation Professor, was invited to give a talk at the inaugural symposium "Bioinformatics and Computational Biology in the era of BigDATA", held on campus in June. The purpose of the symposium was to bring together faculty from across the university to nurture interdisciplinary projects, and included short-talks from faculty in the Biology, Biochemistry, Biomedical Informatics, Biostatistics, Computer Science and Engineering, Philosophy, and Pharmacology and Toxicology departments. Dr. Albert's research employs genomic, developmental, and genetic approaches to understanding problems in plant evolutionary biology.



In the News

Research on taste cells getting worldwide attention

Dr. Kathryn Medler's research, published November 13th in the journal PLOS ONE and entitled "Diet-Induced Obesity Reduces the Responsiveness of the Peripheral Taste Receptor Cells" has garnered media attention since it first appeared in the UB Reporter.

Her research has found that compared with slimmer counterparts, plump mice had fewer taste cells that responded to sweet stimuli, and the cells that did respond to sweetness reacted relatively weakly.



Learning more about the connection between taste, appetite and obesity is important, because it could lead to new methods for encouraging healthy eating. "If we understand how these taste cells are affected and how we can get these cells back to normal, it could lead to new treatments," Medler says. "These cells are out on your tongue and are more accessible than cells in other parts of your body, like your brain." The finding has been picked up by quite a few of the media outlets, including the Daily Mail in the UK. Dr. Medler was interviewed by Le Figaro, a national French newspaper, which subsequently published an article on her work. Additionally, she was contacted by and spoke to a producer of the Quirks and Quarks radio show which airs on the CBC in Canada. Laboratory Equipment.com designated her as their "scientist of the week", chosen from the science industry's latest headlines, and Northeast Public Radio wants her to record a segment talking about her work. To view the study, go to [this site](#)

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Meetings

Members of **Dr. Paul Cullen's** lab attended the Yeast Cell Biology Meeting in Cold Spring Harbor, New York this past November. Two of his graduate students presented posters, and a third presented a talk.

The meeting included talks from a Nobel Laureate, Paul Nurse, and the whole lab got to meet James Watson, one of the co-discoverers of the double helix structure of the DNA molecule for which they won the Nobel Prize in Medicine. They were even fortunate enough to get an autograph.

And what would be a yeast cell meeting without sampling yeast's most famous beverage?

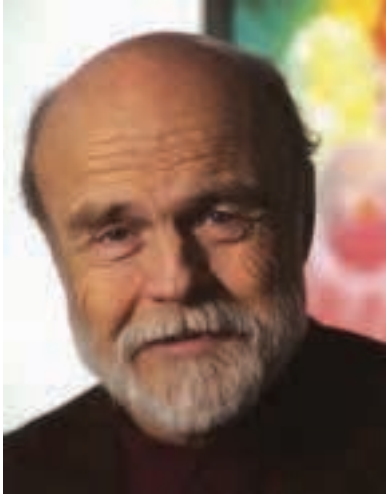


Dr. Cullen Lab: Hema Adhikari, Lauren Caccamise, and Colin Chavel

Faculty News . .

Awards and Grants

Dr. Clyde 'Kipp' Herreid and his co-PI, Nancy Schiller of the Science and Engineering Library, have been awarded \$499,807 by the National Science Foundation which will continue to support their 25 year effort to bring the method of using case studies into the teaching of science. The title of the grant is: "Case Studies and the Flipped Classroom".



With this grant, UB's National Center for Case Study Teaching in Science (NCCSTS) is further developing the use of case studies to teach STEM (science, technology, engineering, and mathematics) subjects by including the development and use of materials and videos to facilitate a "flipped classroom" design, a teaching method that has shown promise to engage students in a variety of STEM disciplines. In this approach, students learn the subject basics at home by watching short interactive videos, then apply these principles in class to case studies and learn the material in depth. The project will generate videos for existing cases in key subject areas of general biology such as experimental design, biological molecules, cell structure, DNA structure and function, genetics, evolution, animal and plant anatomy and physiology, health, ecology, and conservation. For more information about the NCCSTS, visit their

[website](#)

Teaching excellence recognized

Dr. Jessica Poulin was one of six UB faculty members to receive the 2013 Milton Plesur Excellence in Teaching Awards from the undergraduate Student Association (SA) in recognition of their commitment to students and the quality of their teaching. Poulin teaches the introductory 'Evolutionary Biology' course with class sizes ranging from 150-450 students. She is actively involved in undergraduate curriculum development, having been tasked with the redevelopment of the introductory 'Evolutionary Biology' lecture and laboratories, including rewriting



the laboratory manual. She has developed two new upper-level undergraduate courses, BIO 337 'Pattern and Process in Evolution', and BIO 338 'Evolutionary Ecology', and is currently in the process of developing yet another course, BIO 487, entitled 'Honors Research Methods', which will be a class aimed at our top students who plan to participate in the biology honors research program. The course will help prepare them for the writing and analysis required from honors-level students. It will also feature guest lectures by departmental faculty, explaining their work and also their career paths. These interactions will allow students to find lab homes and also gain insights into research life.

Jess joins our two other winners of this student-initiated award, Drs. Paul Cullen & Kipp Herreid in our department.

Faculty News . . .

New Faces

Dr. Omer Gokcumen is our newest Assistant Professor and member of the faculty, having arrived in August. He completed his undergraduate degree in molecular biology in genetics at the beautiful Bogazici University in Istanbul, Turkey before coming to Philadelphia for a Ph.D in anthropology at the University of Pennsylvania. His doctoral work involved working in relatively remote and mostly ancient villages in Anatolia (in modern day Turkey) to understand the impact of cultural dynamics to structuring of genetic variation.

Specifically, he studied whether differences in religious traditions, self-identified ethnicities and other cultural factors have a measurable impact on social interactions (e.g., marriages) that may affect flow of genetic information between different villages.

Following graduation, he moved to Harvard Medical School and worked first as a post doctoral fellow and later as a team leader conducting evolutionary and medical genomics research. His current research includes mechanisms of human genome evolution, identifying specific regions of the genome that are important in human health or



comparing human genomes with that of non-human primates (e.g., chimpanzees) and asking questions regarding local human adaption (e.g., why do Europeans have more copies of a particular gene).

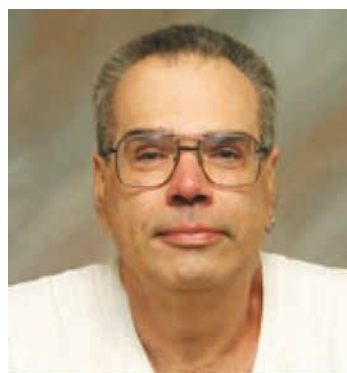
Besides collaborations with departmental colleagues, Dr. Gokcumen is working closely with other UB researchers in the Medical School and the Department of Antrholpology, and has on going collaborations in different institutions around the world, including Harvard Medical School, Mount Sinai School of Medicine, Middle Eastern Technical Universtiy, Bilkent University, and European Molecular Biology Laboratories.

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Retirements

Dennis Pietras, Instructional Support Specialist and long-time member of the department, retired March 1, 2013. He began his career in the department in 1984, and over the years, has been involved in both the instructional and administrative aspects of departmental operations. He has taught introductory biology courses and supervised/supported the instruction of their accompanying laboratories. Other duties included responsibility for the smooth running of the physical plant of the department (including research lab modifications, equipment inventory and maintenance, waste disposal, greenhouse support and fire safety code compliance). In more

recent years, he was responsible for laboratory support of upper level undergraduate courses and was known to all as our “jack of all trades”. His



continuing contributions to all aspects of the department’s successful operation will be missed. We wish him well as he begins this new chapter of life.

Alumni News . . .

Clifton Poodry, Ph.D. (B.A.`65, M.A.`68), was invited to UB to give the Inaugural Celebration of



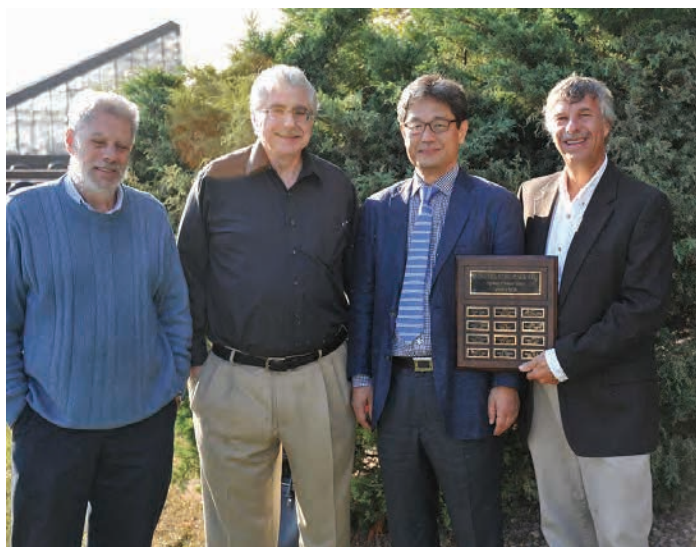
Inclusiveness in Medicine and Science Lecture, titled “Strategies to Increase Workforce Diversity and Inclusiveness.” Prior to his talk, he met with students in UB’s Collaborative Learning and Integrated Mentoring in the Biosciences Undergraduate Program (CLIMB UP). This summer program

provides undergraduate students from diverse groups from schools throughout the country an opportunity to conduct research in the biomedical and health sciences and explore graduate career opportunities. Dr. Poodry is Director of the Division of Training, Workforce Development and Diversity at the National Institute of General Medical Sciences, National Institutes of Health. His office supports research training, career development, diversity and capacity-building activities through a variety of programs at the undergraduate, graduate, post-doctoral, faculty and institutional levels. To read more about his visit, [click here](#).

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Philip F. Mulvey (Ph.D., 1959), J.D., was one of the first two graduate students to receive a doctoral degree in the history of the Biological Sciences department. Mulvey held various senior physiologist and scientific positions in both the public and private sectors for many years prior to starting a lengthy career as a trial lawyer, mostly in product and medical liability, all representing plaintiffs

Distinguished Speaker Series



Dr. Jeremy Bruenn, Dr. Ron Berezney, Dr. Chung Mo Park, and Dr. Jerry Koudelka

This year’s Distinguished Alumni Speaker was Dr. Chung-Mo Park (Ph.D. 1994), Professor & Associate Dean for Research, Department of Chemistry, Seoul National University. The title of his talk, given September 19th, was “Competitive inhibition of transcription factors by small interfering peptides in plants”. Dr. Park’s doctoral advisor during his time in the department was Dr. Jeremy Bruenn. Mo, as he was more commonly called by his friends, has gone on to a stellar career in research where he is in the forefront of studies using small peptides as tools for understanding transcriptional regulation in plants. Dr. Park spent two days in the department renewing old acquaintances, touring the department and campus, and meeting with our graduate students.

Dr. Park was the twelfth speaker in our Distinguished Alumni Speaker series. He, along with our previous distinguished alumni speakers, comprise our ‘Distinguished Dozen’. They are:

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Alumni news, *cont'd* . . .

2013: [Dr. Chung-mo Park](#) (Ph.D., 1994, Dr. Jeremy Bruenn, advisor). Professor and Associate Dean for Research, Department of Chemistry, Seoul National University.

2012: [Dr. Philip J. Fay](#) (M.S., 1977, Ron Berezney, advisor). Professor, Department of Biochemistry and Biophysics, University of Rochester School of Medicine.

2011: [Dr. Carol Gregorio](#) (B.A., 1983, Mike Hudecki, advisor). Luxford/Schoolcraft Endowed Professor of Cardiovascular Disease Research, Director of the Molecular Cardiovascular Research Program, head of the Department of Cellular and Molecular Medicine, and interim Director of the University of Arizona Sarver Heart Center at the University of Arizona College of Medicine

2010: [Dr. Jian-Ting Zhang](#) (Ph.D., 1989, Bruce Nicholson, major advisor). Professor and Andrew and Peggy Thomson Chair in Hematology/Oncology, Department of Pharmacology and Toxicology, Indiana University School of Medicine.

2009: [Dr. Curt Sigmund](#) (Ph.D. 1987, Ed Morgan, major advisor). Roy J. Carver Endowed Chair in Hypertension Research, Professor of Pharmacology, and Professor of Internal Medicine, Molecular Physiology and Biophysics, Roy J. and Lucille A. Carver College of Medicine, University of Iowa

2008: [Dr. Ross A. Tubo](#) (Ph.D. 1985, Ron Berezney, major advisor). Principal of Research Translation LLC. Former Vice President, Stem Cell & Chemokine Biology at Genzyme Corporation, Framingham, MA

2007: [Dr. Libuse Bobek](#) (Ph.D. 1982, Jeremy Bruenn, major advisor). Professor, Department of Oral Biology, School of Medicine and Biomedical Sciences, The State University of New York at Buffalo

2006: [Dr. Arthur R. Strauch III](#) (Ph.D., 1981, Jim LaFountain, major advisor). Professor, Department of Physiology and Cell Biology, The Ohio State University School of Medicine.

2005 [Dr. Robert J. Full](#) (Ph.D., 1984, Clyde Herreid, major advisor). Chancellor's Professor, Department of Integrative Biology, University at California at Berkeley

2004: [Dr. Loren J. Field](#) (Ph.D., 1982, Jeremy Bruenn, major advisor). Professor of Medicine, Physiology and Biophysics, Krannert Institute of Cardiology, Indiana University School of Medicine.

2003: [Dr. Harold C. Smith](#) (Ph.D., 1982, Ron Berezney, major advisor). Professor, Department of Biochemistry and Biophysics, University of Rochester School of Medicine and Dentistry.

2002: [Dr. Wanjin Hong](#) (Ph.D. 1989, Darrell Doyle, major advisor). Professor and Executive Director, Institute of Molecular and Cell Biology, Singapore.

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To make a departmental online contribution, click on the icon below:



Graduate student news and events . . .

8th Annual Graduate Student Research Symposium

Graduate students once again organized their annual Graduate Student Research Symposium of the Biological Sciences . This highly successful event was held on campus last March. Students presented the results of their research in 19 posters and 10 presentations during this all-day event. They also invited, as their keynote speaker, **Dr. Marina Antoch**, Associate Member, Department of Molecular and Cellular Biology, Roswell Park Cancer Institute. The title of her talk was “Daily variations in response to stresses: how does time matter?”

Darrell Doyle Memorial Travel Awards were awarded for best platform presentation and poster, respectively, as determined by departmental faculty. There was a tie for 1st place in the Best Presentation category. \$1000 Darrell Doyle Travel Awards were given to **Jason Arnold** for his talk “A Novel Mechanism for Selective Predation of Bacteria by *A. castellanii*:

Modification of Lipopolysaccharides as an Approach to Bacterial Anti-predator Defense and to Qiyun Zhu for his talk “HGTector: A new method



*Dan Samorodnitsky, Dr. Jerry Koudelka,
Guest Speaker Dr. Marina Antoch,
Jason Arnold, and Michelle Krzyzanowski*

of genome-wide detection of horizontal gene transfer based on Blast hit distribution statistics, and its application in *Rickettsia* genomes”. Tied for

2nd place and winners of a \$500 Travel Award are **Eneda Toska**, “Mechanism of action of the WT1-BASP1 transcriptional repressor complex” and **Eric Anderson**, “Expression of Alpha-synuclein induces behavioral defects that are distinct from motor protein mutants in *Drosophila* larvae”.

Best Poster and a \$500 Doyle Travel Award went to Xi Wang for “The role of salsalate in treatment of diabetic GK rats”. **Iqbal Aijaz** took 2nd and a \$250 Travel Award for “Eukaryotic predator, *Tetrahymena thermophila*’s effect on Shiga toxin encoding bacteria” and 3rd place and a \$100 Travel Award went to **Sukanya Basu** for “Studying the complexity and dynamics of protein interaction network that regulates the filamentous growth pathway”.

To view more photos from the symposium, go to [this link](#).

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Inaugural Paul Pizzella and Marta Ayala Award funds graduate student research in Germany

Ms. Yang Yang, a doctoral student in Dr. Matthew Xu-Friedman’s research lab, is the first recipient of a generous donation from Paul Pizzella (B.A., 1986) and Marta Ayala which provides financial support for graduate students to either attend or present their research findings at a scientific conference or go work in another research lab outside the department. Yang used the award to defray the costs of her travel to Germany to learn a new technique of channel recording while gathering data about somatic sodium conductance in bushy cells within the ear. She spent six months collaborating with Dr. Andreas Neef’s lab at the Max-Planck Institute in Göttingen, Germany, where she gained valuable experience working in the Göttingen science community, which is very prominent in the field of auditory neuroscience. The techniques learned in Germany will be beneficial to her doctoral project here at UB, which will test the effects of a somatic sodium conductance on spike timing precision in bushy cells.

Undergraduate news, events, and awards . . .

College of Arts and Sciences Outstanding Senior Award – Courtney Szyjka

Each year the Dean honors the top senior graduating from each department in the College of Arts and Sciences with the “Dean’s Outstanding Senior Award”. Students are presented with a medal and certificate at the University Commencement ceremony each May. This year’s awardee is Courtney Szyjka from Alden, N.Y. She graduated Summa Cum Laude with B.S. degrees in Biological Sciences and Chemistry, both with Highest Distinction. She is a University Honors College scholar, a familiar name on the Dean’s List, a Phi Beta Kappa nominee, and is a 2012 recipient of the Knobloch Endowment Scholarship and the Ralph F. Theuer Scholarship. In addition to her classroom excellence, Ms. Szyjka has woven undergraduate research and teaching (as a Teaching Assistant for the ‘Cell Biology Enrichment’ course) into her college program. During her undergraduate career, Courtney spent two years in the research lab of Dr. Gerald Koudelka, working on a bacteriophage (VT Φ 272) that is identical to one that was present in the E. coli O104:H4 strain that was linked to the high incidence of disease in Germany during May-June 2011. Because VT Φ 272 is similar to lambda phage, her work in the lab focused on identifying the DNA binding affinity of the repressor of this phage to the Or region of the lambda phage. The substantial nature of her research experience was formally recognized by her receipt of a prestigious American Society of Microbiology Undergraduate Research Fellowship in summer 2012. Courtney is pursuing a doctoral degree here in the department, having been awarded a fellowship to do so. She hopes to enter a research career in the life sciences.

Bequest to department will benefit undergraduate teaching laboratories

The department recently received \$5,000 from the estate of **Dr. Irma Wagner Duncan** which will be used to purchase undergraduate laboratory teaching equipment. Dr. Duncan graduated from the University of Buffalo (as it was known at the time) in 1933 with a degree in chemistry and went on to graduate school at the University of Chicago to study medicine and biochemistry, earning her PhD in biochemistry in 1950. She taught chemistry at both Colorado Women’s College and the University of Denver and carried on research. She continued her career as a research biochemist at the Arctic Health Research Laboratory, first in Anchorage and later in Fairbanks. She later moved to Atlanta, GA where she worked as a senior biochemist at the Center for Disease Control and Prevention. During her career as a biochemist, she authored many research papers and presented her work at scientific meetings.

Dr. Duncan made the gift to express appreciation for her undergraduate education experience at UB; it was her sense that it prepared her for the rigors of her graduate education at the University of Chicago. Since it was her stipulation that the bequest was to benefit the department for the purpose of acquiring lab equipment, we plan to use her generous gift in the near future to enhance the undergraduate laboratory experience.

Undergraduate news, events, and awards . . .



Participants in the 2013 Honors Symposium: Christina Zheng, Mark Pryshlak, Kaitlyn Sullivan, Gary Iacobucci, Chelsey Reed, Nathan Catlin, Amanda Ruby, Jennifer Trapani, and Dr. Paul Cullen

Undergraduate Honors Symposium – exploration and discovery outside the classroom

Biological Sciences majors in the B.A. or the B.S. program may participate in the departmental Honors Program, provided they maintain a GPA of 3.25 or higher in all biological science and basic science (chemistry, physics and math) coursework. Requirements for departmental honors also include 6 credits of Honors Research (BIO497), typically conducted over two semesters and supervised by a faculty member. This research culminates in an oral presentation at the Honors Symposium held at the end of the academic year. Students who meet all the criteria have an honors designation added to their transcript. a continuing undergraduate student in the department. As can be seen from the following projects, research need not be confined to departmental faculty, and in fact, much of the research has an interdisciplinary perspective.

Held on May 6th, 2013, this year's participants, research topics, and faculty advisers are:

Nathan Catlin, "The Origin and Diversification of *Synandrea* Using Low Copy Nuclear Markers". Faculty advisor: Dr. Charlotte Lindqvist. Nathan is a continuing undergraduate student in the department.

Gary J Iacobucci, "Spatial and temporal characterization of normal and perturbed axonal transport in primary neuronal cultures from *Drosophila* larvae". Faculty advisor: Dr. Shermali Gunawardena. Gary is currently a first-year student in the Ph.D. Program in Biomedical Science (PPBS) at UB, and is contemplating a doctorate in either Biochemistry or Biomedical Engineering at this time.

Mark Pryshlak, "Overexpression of Ribonucleotide Reductase and the Fidelity of DNA Replication". Faculty advisor: Dr. Jennifer Surtees, Department of Biochemistry. Mark is a continuing undergraduate student.

Undergraduate news, events, and awards . .

Honors Symposium cont'd from Page 11

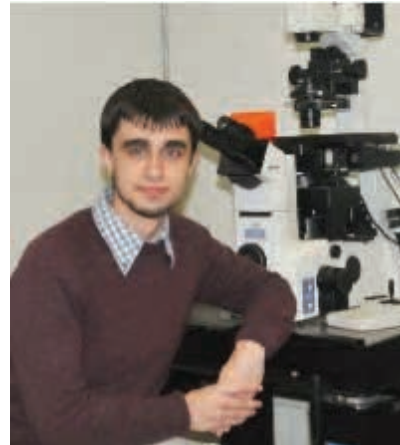
Amanda Ruby, "Development of An Expert Crystallization Knowledge System". Faculty advisor: Steven Gallo, Center for Computational Research. Amanda is a Masters student in the Genetics, Genomics & Bioinformatics program within UB's School of Medicine and Biomedical Sciences.

Kaitlyn Sullivan, "Characterization of Cassiopea species and its algal symbionts". Faculty advisor: Dr. Mary Alice Coffroth, Department of Geology. Kaitlyn is a Masters student in the Evolution, Ecology and Behavior program within UB's College of Arts and Sciences.

Jennifer Trapani, "Microbial Response to Ocean Acidification". Faculty advisor: Rachel Parsons, Bermuda Institute of Ocean Sciences (BIOS). Jennifer is planning to work for a year before applying to grad school in Fall 2014.

Christina Zheng, "Characterizing neuronal-specific Rab proteins and their interaction with Huntingtin during axonal transport". Faculty advisor: Dr. Shermali Gunawardena. Christina intends to go to medical school, and is currently working with mentally disabled children. She is also conducting data analysis in Dr. Gunawardena's lab.

to study other insects. Among the topics researched by these young scientists are cell death, immunity and neural development and communications.



Gary presented a poster entitled "Spatial and temporal analysis of axonal transport in primary neuronal cultures from *Drosophila* larvae". His research involved using neural tissue from *Drosophila* larvae to

develop a system to record and understand changes in the patterns of both normal and perturbed transport of vital cargoes within the nerve over time. His research advisor was Dr. Shermali Gunawardena. He is currently a first-year student in the Ph.D. Program in Biomedical Science (PPBS) at UB, and is contemplating a doctorate in either Biochemistry or Biomedical Engineering at this time

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Gary Iacobucci wins travel award

Gary Iacobucci was one of nine undergraduate juniors and seniors throughout the country to win travel awards to present their research at the Genetics Society of America's 54th Annual *Drosophila* Research Conference in Washington, D.C. this past April. These students conducted research using the *Drosophila* as a model organism or using the tools of *Drosophila* research

Undergraduate Scholarship and Fellowship awardees announced

Through the generosity of our many friend and alumni donors, either through the establishment of endowments or their continued and sustained contributions of our friends and alumni, the department is fortunate to offer scholarship and fellowship support of its undergraduate students,.

Undergraduate news, events, and awards . .

Sidney M. and Marjorie I. McCroskey Scholarships were awarded to **Ryan Carpenter, Timothy Hansen,** and **Vivaswath Ayyar.** The McCroskey Endowment was established in honor of Sidney M. and his wife, Marjorie, both strong supporters of UB. The award is made to an entering senior student in biological sciences with a record of high academic achievement and demonstrated financial need. Ryan is pursuing dual degrees in Biological Sciences and Chemical and Biological Engineering. A resident of Slingerlands, NY, he is a University Honors College scholar, and has been a Teaching Assistant for our introductory Evolutionary Biology course, and a volunteer for environmental preservation/conservation organizations. Ryan spent a summer at the College of Nanoscale Science and Engineering at SUNY Albany where he investigated the effect of hyperosmotic shock on gene expression in Chinese hamster vary cells. His ultimate goal is to obtain a Ph.D. in a field relating to the biological sciences. Timothy Hansen is a University Honors College scholar, a member of Alpha Epsilon Delta (a pre-health fraternity dedicated to community service), and UB Smile. He too has been a Teaching Assistant for our introductory Evolutionary Biology and Cell Biology courses, and has worked in the Athletics Department, tutoring student-athletes in physiology and general biology. Off campus, he has been an Ambassador Volunteer at local area hospitals. His long term career goal is to pursue a M.D. /Ph.D. degree. Tim is from Weedsport, NY

The Irving W. and Natalie A. Knobloch Scholarship was awarded to **Michela Kaminski .** Endowed by the late Professor Emeritus, Irving R. Knobloch (B.A. magna cum laude 1930, M.S. 1932), it is intended for students who demonstrate scholarship, service to UB and their community, and financial need. Michela is a senior from Syracuse, NY, pursuing a B.S in Biological Sciences with a minor in Medical Anthropology. She is involved in numerous community service events, including Meals on Wheels, UB Bike Path clean up, and hospital volunteer. She is also a member and officer in the UB Cross Country and Track Team club. Michela hopes to enter a Physician Assistant program after graduation.

The following research fellowships offer students an experiential learning experience that will allow them to pursue their research single-mindedly in a supportive academic environment. In many cases, students can devote significantly more time to research, rather than having to work a part-time job. This year's fellowship awardees are:

Dr. Daryl L. Raszl Undergraduate Research Fellowship – senior student **Vivaswath Ayyar** has been renewed for a second year of this fellowship. An international student from Mumbai, India, he has continued his research in the lab of Drs. Richard Almon and Deborah DuBois, where he is researching the regulation of GILZ (glucocorticoid-induced leucine zipper) expression by glucocorticoids *in vivo*, and its role in inflammation. It is anticipated that he will likely publish a first author paper from his data before he graduates. Apart from academics, he volunteers at the Erie County Medical Center, is employed as a student assistant in the Office of Judicial Affairs as well as the Office of Student Life, and holds a voluntary position as a Student Justice in the Student-Wide Judiciary. He will graduate with degrees in Biological Sciences and Psychology, and hopes to be admitted into an MD/PhD program.

Philip G. Miles Undergraduate Research Fund – **Aiyan Lu's** undergraduate research is part of an integrative project to understanding the fundamental importance of symbiotic microorganism-host interactions. These symbiotic relationships are prevalent in the natural world, and relatively unexplored in many blood-feeding insects. Aiyan's project aims at ascertaining the genetic diversity of *Wolbachia* in communities of blood-feeding parasites of bats. *Wolbachia* is an intracellular alpha- proteobacterium with various effects on its hosts. Understanding their diversity in blood-feeding parasites is important, because *Wolbachia* are capable of regulating insect immune responses, which in turn may influence the transmission of important insect-borne pathogens. Hence, *Wolbachia* diversity may influence epidemiological patterns of infectious diseases. Aiyan, a resident of Brooklyn, NY, is in her junior year.

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