



BIOLOGY Department Newsletter ITHACA



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Greetings from the Chair, [Susan Swensen](#)



What an interesting year this has been! The economic downturn and a lower-than-expected incoming class this past year have made for some careful budgeting and planning at the college. The Biology Department has weathered the storm well. While we've had to look carefully at our spending, we have had no significant cuts in operating expenses for the past year. Despite the lower college-wide enrollment, the number of Biology and Biochemistry majors has remained steady and we continue to attract strong students to our program.

This was my first year as Chair of the Biology Department, but I had lots of "first-timer" company: Jessica Kerns just completed a fantastic first year as Biology Lab Coordinator and we are lucky to have her. I also enjoyed working closely with Leslie Lewis, who just completed her first year as Dean of the School of H&S. She is an excellent administrator and the Biology Department has already benefited from her support and guidance. Ithaca College's new President, Thomas Rochon, also successfully completed his first year at the college and is enjoying broad support from the campus and community.

This past year we've missed our longtime Biology colleagues Vicki Cameron and Marc Servetnick. Vicki took her final sabbatical year during '08-09 and is now officially retired, enjoying her new home on the Carolina Coast. Marc has now taken a permanent position as Associate Professor of Interdisciplinary Arts & Sciences at the University of Washington, Bothell near Seattle. We wish them all the best.

A BIG THANK YOU!!!

Bertolini Endowed Fund

The Department is very grateful for the generosity of **Donald Bertolini** (Biology '71). He has established the Bertolini Endowed Fund to support undergraduate research in biology and biochemistry. The Department of Biology will award the grant annually to an appropriate student research project.

Thomas J. Metzger '02 and David C. Metzger '05 Undergraduate Research Fund

We were saddened by the passing of **Larry Metzger**, M.S. '87, in September 2008 after a valiant battle with pancreatic cancer. As Dean of Enrollment Planning, Larry was an inspiring leader and astute manager of Ithaca College. In honor of Larry and his sons who graduated from the Biology Department, the Metzger family has established a Memorial Scholarship at Ithaca College, as well as a research fund in the Biology Department. Both funds will benefit students with financial need. The Department is greatly appreciative of this very generous act by the Metzger family.

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*Greetings from the Chair
Continued*

We welcome our newest faculty member, Dr. Maki Inada, a molecular biologist. Maki will be teaching Principles of Biology this fall with Andy Smith and will be gearing up her lab for research in gene regulation. Maki will join faculty in Biology and Chemistry as we assemble the Biochemistry Steering Committee, which will provide guidance for that growing major. Welcome, Maki!

The upcoming year is shaping up to be interesting as well. In contrast to the past year, this fall's enrollment is much higher than expected. We've added some lab sections and non-majors classes to accommodate the large class. Biology and Biochemistry student numbers remain steady, but we are teaching many more students from other schools.

As always, we are looking forward to meeting our new students in the fall, and we hope to hear from our wonderful alumni as well. Please enjoy this year's newsletter and take a moment to tell us what you're up to or to pass along any news you have.



Student Achievements

Bernard Family Awards

The department and students appreciate the continued support provided by the Bernard Scholarship. Former Biology professors, Jack and Flo Bernard were an inspiration to thousands of students, and both considered their interactions with students to be the most important part of their careers at Ithaca College.

The Bernard Scholarship

This [scholarship](#) honors the Bernards' commitment to helping students. The scholarship is awarded to juniors and seniors in the biological science program, and is based on financial need and good academic standing. This year, two students benefitted from the award.

Zach Cava (Biology '09) had an obsession with dinosaurs at an early age. He continues to have interest in reptiles and amphibians. During his time at Ithaca College, he has come to realize the importance of conservation biology, and hopes to pursue a career involving both herpetology and conservation.



Zach Cava '09

Lauren Houdek (Biology '09) was inspired by her optometrist to pursue a career in medicine. During her time at Ithaca, she has been very involved in the Pre-Medical Program, serving as president of the Pre-Medical Society and Unite for Sight (an organization dedicated to the promotion of eye care). For the 2009-10 academic year, she will be an Academic Associate at North Shore University Hospital and has plans for matriculation into medical school in the Fall of 2010.

The Bernard Family Undergraduate Research Fund

This [Fund](#) was established to support undergraduate research in biology. It provides stipends for summer research, funding for student travel to meetings and as needed, supplies and equipment necessary for students to carry out their projects. Recipients included:

Nate Bates and **Hannah Braun:** help support the necessary purchase of a YSI multimeter probe. The research will be conducting under the guidance of **Susan Allen-Gil**.

Lauren Houdek and **Ally Girasole** were able to travel to Washington, DC to attend the Society for Neuroscience Conference with **Jean Hardwick**.

Jason Dickens Memorial Award

Jason Diaz (Biology '09) was this year's recipient of the [Jason Dickens Memorial Award](#). This award is given in honor of Jason Dickens, who was an Ithaca College Biology major. Jason Dickens had hoped to attend medical school and to use his talents to serve society as a physician. Tragically he was the victim of a boating accident in the summer of 1998.

Campus Life Award

Daniel Wald (Biochemistry '09) was among ten IC recipients of the [Campus Life Award](#). This is given each year to a select group of graduating seniors in order to recognize their outstanding contributions to the Ithaca College community through participation and involvement in campus life. Over the years this award has become a coveted goal and valued honor. In order to be nominated for this prestigious award, students must have been extensively involved in a number of areas of campus life and have demonstrated significant leadership abilities and accomplishments.

George A. Gonzalez-Gallardo Scholarship

Allison Girasole (Biology '10) and **Bryan Stefak**

(Biochemistry '09) were awarded the Biology Department's [George A. Gonzalez-Gallardo Scholarship](#).

This scholarship was established in memory of George A. Gonzalez-Gallardo, a 1979 graduate. Recipients must demonstrate high academic achievement.

Fred Kastenbaum Pre-Health Award

Nicole Johnson (Biology '10) is the winner of the award for Fall 2008. From an early age, Nicole has been interested in many aspects of medicine, including veterinary medicine. Her experiences at IC have honed her interests in the human body. Her career goals are now focused on medical school and research.

Sofia Harden (Health Sciences '10) was the Award's Spring 2009 recipient. Her career goal is to be an OB-GYN or general practitioner.

Peggy R. Williams Award for Academic and Community Leadership

Lauren Houdek (Biology '09) and **Matt Zeitler** (Biochemistry '10) are among a select group of students at Ithaca College that have demonstrated outstanding performance in both academic and nonacademic endeavors during their years here. The individuals have been selected to be listed among the finest students in the nation!

Phi Kappa Phi

[Phi Kappa Phi](#) inductees must be of good character and possess notable academic achievements. The 2008-09 inductees from Biology/Biochemistry include:

- **Allison Girasole**
- **Cole Lechleiter**
- **Meghan Menges**
- **Matthew Zeitler**

TriBeta

[TriBeta](#) is a nationally recognized professional honor society whose purposes are to promote scholarship in the biological sciences, growth in biological knowledge and to encourage research. Congratulations to the newest inductees:

- **Rebecca Rideout**
- **Brian Felschow**
- **Matt Zeitler**
- **Phil Feinberg**
- **Ally Girasole**

Student Presentations

Our students' work continues to shine on- and off-campus.

- Twenty-two presented their research at IC symposia.
- Eight presented out of state at national conferences with their faculty research advisor.
- Eight students are co-authors on published work and/or work that were presented by faculty at conferences.

- **Lauren Houdek**
- **Noah Mishkin**
- **Cole Lechleiter**
- **Andrew Bradshaw**
- **Ashley Bell**

Sigma Xi

Ten students and four faculty members from Ithaca College were inducted into [Sigma Xi](#), the scientific research society during the spring. They were elected to membership because of their research achievements or potential. The following are from the Biology Department and Biochemistry program:

- **Jason Diaz**
(Marina Caillaud)
- **Ally Girasole**
(Jean Hardwick)
- **Lauren Houdek**
(Jean Hardwick)
- **Eric Van Fleet**
(Marina Caillaud)

Faculty member:

- **Leann Kanda**

ALUMNI CONTINUE TO SUCCEED

Rachel Adametz Swiss (Biology '05) is pleased to announce her co-authored publication, "RNA interference screen for human genes associated with West Nile virus infection." *Nature* 155(Sept): 242-247. 2008.

Nancy Andersen (Biology '07) will be pursuing a Masters in Forensic Science at Boston University this fall.



Bryonna Albrecht

Bryonna Albrecht (Biology '08) works at the Turpentine Creek Wildlife Refuge. The refuge focuses on rescuing large carnivores nationwide. Bryonna is the caretaker to work one-on-one with the over 100 big cats.

Mike Axtell (Biology '98) recently received two prestigious awards, the Beckman Young Investigator Award and the Searle Scholar Award. Mike is currently an assistant professor of Biology at Pennsylvania State University. His research focuses on functional genomics of plant microRNAs and siRNAs. An article about Mike and his research was published on-line in *The Scientist* (April 1, 2009). The article is entitled, "Mike Axtell: The curious gardener".

Caitlin Baran (Biochemistry '08) was one of 16 applicants selected for a summer research experience at the Royal College of Surgeons in Dublin, Ireland last summer. Caitlin was the only applicant from the United States selected for this program.

Ned Bitsack (Biology '78) is the Dentist/Owner/President of his own practice in Merrimack, New Hampshire.

Jaime Blair (Biology '99) has just completed her first year as assistant professor of Biology at Franklin and Marshall College in Lancaster, PA. She is also a new mom! Jaime will be returning to Ithaca to give a seminar in the Biology Department this fall.

Bobby Chiang (Biochemistry '08) is pursuing a Master of Architecture at the University of Toronto.

Wendy Clement (Biology '02) is a postdoctoral associate at Yale University. She recently traveled in the Andes of Ecuador collecting plants for her work on *Viburnum*. She was also a guest speaker in the Department's Seminar Series this past spring.



Wendy Clement
'02

Melissa Conarton (Biology '03) is a Licensed Veterinary Technician, Certified Canine Rehabilitation at the Veterinary Medical Center of Central New York.

Andy Dusel (Biology '02) received a DDS from the University of Buffalo School of Dental Medicine. He is now

working on an orthodontic certificate from the Montefiore Albert Einstein Medical Center.

Lynda Evans (Biology '04) completed a Ph.D. from the University of Alabama at Birmingham. She has accepted a post-doc position at the National Cancer Institute this summer.

Natalya Fish (Biology '98) finished her residency in combined Internal Medicine and Pediatrics in 2006. She is completing a fellowship in Pediatric Rheumatology at Tufts, and pursuing a master's degree in clinical research.

Melanie (Powers) Fraites (Biology '01) received a Ph.D. from the University of Florida. She is currently working as a post-doctoral Fellow at the US Environmental Protection Agency, and returned to the Biology Department in Fall 2008 to present in the seminar series.

Becky Friend (Biology '07) successfully completed her first year of vet school at Ohio State University.

Derek Gabreski (Biology '08) participated in a 90 day National Outdoor Leadership School expedition, then worked as a substitute teacher.

He is now enrolled as a graduate student at the University of Puget Sound in their Masters in the Arts of Teaching program. His goal is to become a biology teacher.

Tia (Dow) LaBarge (Biology '04) receive a N.Y.S Clinical Technology License and is working at URMC/ Strong Memorial Hospital as a Microbiology Clinical Technologist.

Mandi Jacobson (Biology '04) is a Biology Teacher at Banneker High School in Washington, DC.

Karen (KeKe) Ersland (Biology '05) is pursuing a Ph.D. at the University of Wisconsin.

Jenny Kimball (Biology '05) will be attending North Carolina State University this fall to continue research on rice genetics while earning her Ph.D.

Kathy Kowalski Wojciechowski (Biology '98) received a MS in Pharmacology at the University of Rochester. She is now a full-time mom, as she is pleased to announce her baby girl, Ella, born in July 2008.

Bekke Mapes (Biology '03) received a Ph.D. from the University of Texas, San Antonio. She is now the Clinical Research Coordinator at Arizona State University.

Caitlin McDonald (Biology '05) is assisting on vaccine development in the Center for Infectious Diseases and Vaccinology at Arizona State University.

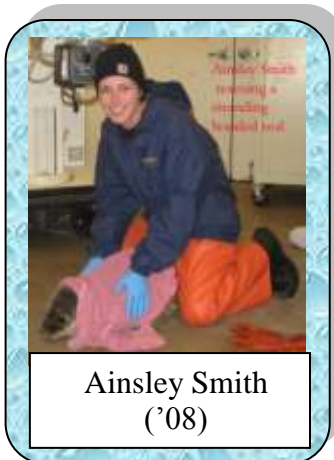
Tatum McNierney (Biology '02) is a Science Teacher in the Half Hollow Hills School District in Dix Hills, New York.

Allison Mikita (Biology '05) is enrolled in the Masters of Science in Nutrition Communication at Tufts University.

Maira Pires (Biology '02) is pleased to announce her publication, "Patterns of gene expression and copy-number alterations in von-hippel lindau disease-associated and sporadic clear cell carcinoma of the kidney". *Cancer Res.* 2009 Jun 1; 69(11):4674-81.

Liz Pratico (Biochemistry '05) is a Post-doc fellow at Duke University Medical Center.

Ainsley Smith (Biology '08) completed a Marine Mammal and Sea Turtle Stranding Internship for the academic year at Mystic Aquarium. She then accepted a full-time position as an Aquarist in their fish and invertebrate department.



Tim Stewart (Biology '89) is an Assistant Professor at Iowa State University in the department of Natural Resource Ecology and Management.

Linda (O'Bryan) Forrester (Biology '88) is an Instructor at the University of Rhode Island.

Bethany Reese (Biochemistry'08) is an Associate Investigator in Central Research & Development at the DuPont Company.

Candy (Reynolds) Cummings (Biology '01) completed her MBA from Ashford University in 2008.

Julie Rock (Biology '99) is a Doctor of Physical Therapy and is a Physical Therapist in New York.

Pamela Ronco (Biochemistry '08) is enrolled in the BCMB graduate program at the Johns Hopkins University School of Medicine.

Jackie Scahill (Biology '07) is pleased with her published article, "Effects of atrazine on embryonic development of fathead minnows (*Pimephales promelas*) and *Xenopus laevis*". *BIOS: A Quarterly Journal of Biology* 79(4): 139-149. 2008. The work was conducted under the supervision of **Susan Allen-Gil** and **Marc Servetnick**.

Dennis Thapa (Biology '08) is completing a one-year research fellowship for the NIH at Johns Hopkins and will be in medical

school at the University of Buffalo in the fall.

Shelagh Tupper (Biology '01) received a Master in Science in Wildlife Management at Colorado State University this year.

Carolyn Vitale (Biology '08) is pursuing a MD at Temple University.

Ana Velez (Biology '08) is pursuing a MD at the University of Florida College of Medicine.

Michelle Walter (Biology '04) earned a DO from Lake Erie College of Osteopathic Medicine. She is now a resident in Internal Medicine and Pediatrics (combined residency program) at Buffalo University.

Staff & Faculty Activities

Awards

Johanna Baker is the proud recipient of Challenge Industries' Anniversary Award. It was given to her in recognition of her 20 years of service and outstanding employment success in their agency. Of those 20 years, she has had continuous service in the Biology and Psychology Departments.



Johanna Baker,
20 Years of
Service

Susan Swensen is one of the five recipients of the 2008-9 **Faculty Excellence Awards**. New criteria this year emphasized exceptional performance in all areas of the faculty role, including teaching, scholarship, and service. This year's award recipients were recognized for a wide variety of accomplishments, such as innovative teaching, significant scholarly achievements, exemplary service, and demonstrated support for key College values and initiatives.

Faculty Search is Complete

With the official retirement of Vicki Cameron, who is enjoying her life of leisure, it brings us great pleasure to announce the arrival of our new molecular biologist, **Maki Inada**. She is a molecular biologist who is interested in the regulation of gene expression. Maki has been studying mechanisms of gene regulation associated with

highly conserved regions in the human genome. Using experimental and computational methods, she has demonstrated that this mechanism unexpectedly regulates gene expression by coupling alternative splicing

and mRNA decay. This work was published in 2007 in *Nature*.

Before coming to IC, Maki received her Ph.D. from University of California in San Francisco, completed a postdoctoral fellowship at UC Berkeley, and most recently has been a research associate and lecturer at Cornell University where she developed a research-based laboratory course.



Leann Kanda passing off the “new faculty member’s lab mascot” to Maki Inada.

Maki is also an underwater hockey enthusiast and coach of the New York Underwater Hockey Club!

Finger Lakes Project Workshop

[Susan Swensen](#) coordinated the [Finger Lakes Project Workshop](#) (FLP) this spring. The workshop is held annually and attracts both national and international educators interested in sustainability education. The workshop taught how to integrate concepts

of sustainability into diverse disciplines and all aspects of education.

The theme of this year’s workshop was “sustainability and culture,” with lectures and learning sessions on the following topics:

- Eco and activist art
- Ethnomusicology and culture
- Food culture and sustainability
- International education for sustainability
- Sustainability education for K–12
- Course design and assessment

More information is at: ithaca.edu/fingerlakes_project/.

Funding

As announced on [Intercom](#), the National Science Foundation has awarded a 3-year grant of approximately \$150,000 to four faculty members in the School of Humanities and Sciences for their project, entitled "Multidisciplinary Sustainability Modules: Integrating STEM Courses". Under the direction of Ali Erkan, Department of Computer Science; [Jason Hamilton](#); Thomas Pfaff, Department of Mathematics; and Michael Rogers, Department of Physics. The project will focus on the rich set of problems encountered in sustainability in order to formulate how they can be tackled by students

from different disciplines working collectively, iteratively, but not necessarily simultaneously, over a set of online tools for exchanging data, code, reports, and expertise.

[Leann Kanda](#) received a summer research grant from the Provost's Office at Ithaca College. Her project is titled, "Movement ecology in muskrat: The influence of personalities, social interactions, and predators". Leann and her research students will be radio-tracking muskrat to observe individual variation in exploratory and dispersal movements. Animal movements in the field will be compared to their movements in mink, the predator of the muskrat. The Kanda research lab observed the spatial component of the predator-prey interactions.



Christina Konaris ('11) releasing a radio-collared muskrat (research with Leann Kanda).

New Lab Coordinator

We are pleased to welcome our new Biology Lab Coordinator, **Jessica Kerns**. She has a graduate degree in biology and has worked in a variety of settings, from academia to consulting. Jess oversees the cadre of students that help prepare all of the Biology laboratories each week. In addition, she handles department orders and helps with the budgets. As many other athletes in the department, she is also an avid runner and fitness instructor! Welcome, Jess!



Jessica Kerns,
Lab Coordinator

Publications

[Susan Allen-Gil](#), [Lia Stelljes](#), [Olena Borysova](#) (Eds.). 2009. [Addressing Global Environmental Security Through Innovative Educational Curricula](#). NATO Science Series. Springer. Dordrecht, The Netherlands.

The following are chapters in the book:

Susan Allen-Gil and [Sarah Brylinsky](#). "Learning by doing: The university as a curricular tool for sustainability and environmental security"

Susan Allen-Gil and [Lia Stelljes](#). "A student's perspective: The benefits or non-traditional methods of environmental education on environmental policy"

Marta L. del Campo, Carol I. Miles and [Marina C. Caillaud](#). 2008. "Effects of experience on the physiology of taste discrimination in insects." Chapter 9 in [Insect Taste](#). . Edited by Philip L. Newland, Matthew Cobb. Taylor and Francis Group.

[Jason Hamilton](#). 2008. "Global Change and Invasive Species: The Demonic Duo." *American Entomologist* (Summer): 100-102.

[Hardwick, Jean C.](#), Southerland, E. Marie and Ardell, Jeffery L. 2008. "Chronic myocardial infarction induces phenotypic and functional remodeling in the guinea pig cardiac plexus." Published in *American Journal of Physiology, Regulatory, Integrative, and Comparative Physiology*, 295: R1926-R1933.

L. [Leann Kanda](#), Todd K. Fuller, Paul R. Sievert, and Robert L. Kellogg. 2009. "Seasonal source-sink dynamics at the edge of a species' range." *Ecology*, 90(6):1574-1585.

[Smith, A.M.](#), [Robinson, T.M.](#), [Salt, M.D.](#), [Hamilton, K.S.](#), [Silvia, B.E.](#) and [Blasiak, R.](#) 2009. "Robust cross-links in molluscan adhesive gels: testing for contributions from hydrophobic and electrostatic interactions". *Comparative Biochemistry and Physiology, Part B* (152): 110-117.

Sabbaticals

[Ed Cluett](#) was on sabbatic this past spring. His most notable accomplishment was something that many considered impossible. He gave up Coca Cola. During this time, Ed worked on manuscripts, obtained DNA constructs, and tested transfection systems in order to do overexpression and knockdown studies of proteins whose localization is affected by disruption of lipid trafficking. Ed also got back to lipid analysis. As seen below, Ed also learned how to use HPLC (okay, it's not on—I know that!) for a project that has run through the summer, funded by ARRA. The enzyme that makes membrane tubules in the Golgi complex is not involved in endosome tubulation. It belongs to a family of proteins that are found on the plasma membrane of certain cell types and acts on a small subset of lipids. The project involves identifying the products of this Golgi enzyme using an *in vitro* system.



Ed Cluett looking for products of the phospholipase A2 family member involved in Golgi structure and function

[Jason Hamilton](#) started a public high school ([newrootsschool.org](#)), worked with I.C. students to implement an experiential education program producing maple syrup and wild mushrooms ([ithaca.edu/hs/depts/envstudies/docs/HSBCAnnualRpt2009](#)), started writing a book, wrote a grant proposal to study how plants respond to getting bitten, finished a paper on spiders and elevated CO₂, started work on curriculum improvement grant with colleagues in math, physics and computer science ([ithaca.edu/mse](#)), oversaw the management of Ithaca College Natural Lands, wrote a blog on sustainability and business, worked on course development for the new Environmental Sentinels class for fall 2009, helped present a faculty training workshop for sustainability education ([ithaca.edu/](#)

[fingerlakes project](#)), gave a bunch of talks, and started a project on sustainable food systems using insect protein ([insectsarefood.com](#)). While this may look like a random list of somebody with a very short attention span, there is a unifying theme: Sustainability Science and Education. Since I started at I.C. in 2001, my professional time has been increasingly spent in teaching and research in the area of sustainability and I decided to use my sabbatical to really increase my capacity in this area. Being involved in so many projects has been a wild roller coaster ride, and to tell you the truth, I'm looking forward to getting back to being a college professor. I can hardly wait to integrate what I have learned into my courses in Biology and the Environmental Studies program! Also, because



Ally Girasole & Jean Hardwick dissecting cardiac tissue

many of these projects are Ithaca-based and are ongoing, the opportunities for I.C. students to get involved are tremendous.

Summer 2009 Activities

Summer is a time that we all look forward to: home with family & friends, vacation, peace and quiet, etc. If you wander through the department, you will find quiet hallways and some dark offices. However, it isn't just all play. Students and faculty continue to work both inside and outside of CNS.

[Marina Caillaud](#) attended a conference on genetics at Brown University, wrote a NIH grant, and supervised the work of a *Eric Van Fleet ('09)* in her laboratory.

[Jean Hardwick](#) has been working on her NIH-funded research on the effects of chronic heart disease on neuronal regulation of the heart. *Allison Girasole ('10)*, worked with her over the summer and will present her results at the Society for Neuroscience meetings in Chicago in October. Ally

Faculty Presentations

Faculty remain active participating in conferences and workshops. Not only are presentations conducted regularly at campus events, but across the world as well.

With the support of the departmental funding sources noted above, many students are also given the opportunity to travel with faculty and participate in these conferences and workshops.



Bruce Smith and Kit Muma provide presentations at the Queen University's Biological Station Open House.

received a travel award from the Faculty for Undergraduate Neuroscience to help fund this trip. In addition, a manuscript related to this work has been accepted for publication by the *American Journal of Physiology*, "Remodeling of the guinea pig intrinsic cardiac plexus with chronic pressure overload". Co-authored by **Jean C. Hardwick, Caitlin N. Baran** (Biochemistry '08), E. Marie Southerland, and Jeffrey L. Ardell.

Leann Kanda's primary work has been field research on muskrat to study their individual movement behavior. Leann received funding by a Provost Summer Grant, and had the assistance of three summer students, funded by Dana and Ford fellowships. She also has ongoing research on dwarf hamster behavior in different contexts. Leann presented a talk at the Urban Wildlife Conference at University of Massachusetts, Amherst co-authored by John Confer and 2 students, and presented a poster at the International Mammalogy Congress in Mendoza, Argentina. Her summer will be wrapped up by submitting a grant proposal to NSF co-PI with Ali Erkan in Computer Sciences.

Maki Inada attended the RNA Society Meeting in Madison, Wisconsin. She also supervised a team of five undergraduates at Cornell University who worked on a bacterial biosensor for

heavy metal ions such as cadmium to take to the Genetically Engineered Machines competition at MIT this fall. It would be great if there were interest for a joint team next year.

Peter Melcher has been working this summer on understanding how plant wounding effects the hydraulic resistance of water flowing through trees. He has also been collaborating with Abraham Stroock, a Professor at the School of Chemical and Biomolecular Engineering at Cornell University. They are fabricating new micro-probes that will allow them to measure large negative pressures and monitor the chemical composition of the fluids within the water conducting pipes of plants.

Andy Smith has supervised **Meghan Menges ('10)** whose project was to determine the role of calcium and sulfate in cross-linking adhesive gels. They intend to submit a paper on this work sometime during the upcoming year, with Meghan as the lead author. Andy also worked on sequencing a protein involved in adhesion. Finally, he submitted a grant proposal to NIH to support continued study on biological glues.

Bruce Smith and **Kit Muma** continue their annual research at the Queen's Biological Research Station in Canada.

International Workshop

Susan Allen-Gil received funding from NATO to host an international workshop in the Ukraine. The purpose of this workshop was to bring together the leading thinkers and practitioners in higher education (in several fields pertaining to environmental security) with government agencies, NGOs and universities to identify the best academic approaches for training university students in transition countries to address issues of environmental security from an interdisciplinary framework. This objective was to advance the next generation of practitioners to engage fully with the environmental security problems such as that of the Chernobyl disaster in the Ukraine, the postindustrial trail of pollution in the Black Triangle Region, and predicted agricultural loss due to climate change. The spring conference was a great success. It brought in 34 individuals from across the world. As a result, a book was published entitled, [Addressing Global Environmental Security Through Innovative Educational Curricula](#) (mentioned above).



Support for Biology Undergraduates

Name: _____ Major: _____ Graduation Year: _____

Home Address: _____

Enclosed is my check for \$_____ made out to the



- Bernard Family Undergraduate Research Fund**
- Bernard Scholarship**
- Bertolini Endowed Fund**
- Thomas J. Metzger '02 and David C. Metzger '05 Undergraduate Research Fund**

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Comments:

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