



In this Issue:	
Bio Department—What's New?	2
Update on Students	3-4
Page One	5
Bio Briefs	6-8
Faculty Happenings!	9
Alumni Return to Hope	10
Photo Gallery	11-13
Twinkie Resurfaces!	14
April 2011    Volume 11, Issue 1	

Biologist/Artist Anne Short ('11) Interns at The Field Museum in Chicago (see page 3)

# Biology Department News

Hope College Biology Department Visit our website at: <http://www.hope.edu/academic/biology>

## Biology Majors – Out There! Doing Biology!

More than ever before, Hope College biology majors and biology alums are all over the map, learning and doing biology, and learning a lot besides biology too! As global events, both positive and negative, have shaken us, awed us, inspired us, and literally jarred us (e.g. Planet Earth is estimated to have wobbled an extra 17 cm during the 9.0 earthquake in Japan on March 11), we are reminded just how vulnerable we are, and how important it is that we engage in experiences both within and beyond Hope College. In multiple ways, small and large, here and there, biology majors are rapidly constructing a tradition of excellence in sharing and acquiring scientific knowledge around the globe, in other locales within the U.S., and through collaborations within the Hope – Holland community as well. In this issue, we congratulate you, the students, past and present, who have had enough of a sense of adventure and love of learning to extend your education beyond...and to be “out there – doing biology”!



Courtney Long ('12) in Rennes, France (see page 5)



Keri Smith ('11) experiences earthquake while studying abroad in Christchurch, New Zealand (see page 4)

# Biology Department—What's New!

## New Biochemistry and Molecular Biology Major Unveiled

We are very pleased to announce that the new *Biochemistry and Molecular Biology* degree at Hope College has been approved. **The Biochemistry and Molecular Biology Major is a Bachelor of Science degree**, offered jointly by the Biology and Chemistry departments, to train students in this exciting field. It was created using the guidelines developed by *The American Society of Biochemistry and Molecular Biology*, ensuring a thorough grounding in the discipline. Students will learn the concepts and skills required to be successful scientists in the field. Students will be prepared for graduate study in Biochemistry and Molecular Biology and related fields, or entry into technical careers. The major also provides excellent preparation for professional degrees such as medicine, dentistry or veterinary science. Students will take a rich, interdisciplinary core of Biology, Chemistry, Mathematics and Physics. Our students are very interested and excited about this new degree! The **Biochemistry and Molecular Biology (BMB) Student Club** has just been approved by the college and is already very active. We want to thank all faculty members and students who helped this happen.

Dr. Maria Burnatowska Hledin is the Director of the BMB degree program, and student Anne Georges ('12) is the first president of the BMB Student Club. Anne writes the following: "We are very excited about the new BMB club! Our goal is to make our chapter of the American Society for Biochemistry and Molecular Biology (ASBMB) Undergraduate Affiliate Network (UAN) active by bringing together students interested in the study of biochemistry and molecular biology. To date we have sponsored a biochemistry seminar, hosted a graduate school advising session, invited recent graduates back to give advice about graduate school, and run a biochemistry lab program for 5<sup>th</sup> grade students in the CASA program. We also plan to hold regular meetings in which we will engage in informal journal club discussions.



Front from left: Anne Georges and Megan Ludwig. Back row from left: Caitlin Peirce, Elizabeth Billquist, Danielle Goodman and Bryan Kunkler

A new face in the Biology Department: Gloria Taylor - the person with the scoop of the happenings in the department!! Gloria joined the Biology Department in June 2010. She moved to Michigan from San Francisco in 2007, where she had previously lived all of her life. She moved here with her husband Matt and her youngest daughter, Natalie, who is attending West Ottawa High School. She has two older children, Lisa, who lives in North Carolina, and Jessica, who lives in San Francisco. Gloria loves to cook, read, sew and visit art museums. Gloria's family includes a rescue cat named Abby.



## Updates on Students

**Biologist/Artist Anne Short ('11) Interns at The Field Museum in Chicago.** “It is still a shock every morning to walk into the Field Museum and see SUE staring at me with her fossilized eye sockets – the excitement has yet to wear off. The Field Museum of Natural History in Chicago is one awesome place, and believe it or not, when you’re standing in the Evolving Planet Exhibit there is actual research in the fields of Botany, Zoology, Archeology, and Anthropology that is going on above your head on the third floor. I however am an Intern on the fourth floor: Exhibit Development. I am the only person here in the Development Department with a biology background! As an intern my current projects are all over the board – I do everything from visitor studies to actually working with the Curators to figure out what information will be on display in an exhibit. Visitor Studies begin by surveying people to see if they like the exhibits, are learning what we want them to learn, or even checking to see if our work makes sense, and then doing the statistical analysis on the data (yes – you will need that statistics handout from the Murrays in the future, I promise!). I am actually one of two people in my department that knows how to do Stats! Thanks Hope College Biology! However for me, the curator stuff is a lot more fun, I am having the privilege of meeting famous scientists (e.g. Robin Foster) and they are teaching me a lot about the endemic plants and animals from the Peruvian rainforest. It is then my job to compile all the information and figure out how to present it to the general public. The exhibit I am working on opens in October of 2011 and is titled “Abbott Hall of Conservation Restoring Earth” or as we developers call it: “Conservation”. – Anne Short ('11); February 2011



Jon Oldham ('11) teaching about healthy nutrition in El Triunfo, Honduras

**Jon Oldham ('11) Develops Passion for Nutrition – Heads for Grad School in Public Health.** “My educational journey at Hope was by no means stereotypical. I came in Pre-Med and decided to major in Biology. I enjoyed my classes but soon decided that I didn’t want to be a medical doctor. I continued majoring in biology and wondered if biological research was the right path for me—it wasn’t. I took a big step and decided that I wanted to pursue my long time passion of nutrition. I researched what it took to become a Registered Dietitian and my biology degree covered nearly

all the requirements. I wanted to be sure of my passion for nutrition so I organized a three month internship to El Triunfo, Honduras. While there I taught nutrition and public health to children, villagers, office workers, and nearly every person I ran into. I discovered that I loved being a “nutrionista” and I wanted to start my nutrition education as soon as possible. I decided to graduate in three years and apply to the University of Michigan School of Public Health—Human Nutrition. Two biology professors wrote my letters of recommendation and I was accepted along with a quarter-tuition scholarship. A large part of me being where I am today is because of the professors and people I met in the Biology department; they have prepared me for the challenges I will face in grad school and have guided me to my true passion”. – Jonathan Oldham ('11); February 2011

## Current Biology Students on the move.....

Keri enjoying a moment in Christchurch before the horrific earthquake.



**Keri Smith ('11) Experiences Earthquake while on Study Abroad in New Zealand.** "I was in my flat in Christchurch when the earthquake hit so I was indeed quite close to the earthquake crisis. I certainly felt the quake. It was quite scary at the time, but luckily I was completely fine, as was my apartment. The University of Canterbury campus received only mild damage, and I do not personally know anyone who was hurt. However the city centre, which is only about 3 miles from my flat, has been completely devastated. It's estimated 2/3 of the central business district was destroyed, and I believe the current death toll is at 154. It's very sad. Today was the first time since the quake hit that I got close enough to the city centre to see some of the destruction, and that's when it really sunk in for me. There are guards and policemen blocking all the roads that lead to the centre square, but even from the edges you can see a lot of the damage. And biking along the outside roads was crazy because the roads are now very, very dusty due to all the soil liquefaction. Most people in town

were wearing dust masks. In fact, while I was biking a woman in a nearby car pulled over and handed me a dust mask, and I was quite grateful she did! I've been strongly urged by the university and my study abroad program to transfer universities, as the University of Canterbury has been closed due to the quake and at earliest will not open until Mar 15, likely later. So, I'll be transferring to Auckland University. Currently I'm still in Christchurch, but I fly out tomorrow morning for Auckland. Besides the drama of the earthquake, things are going really well for me here. I LOVE New Zealand. I've been doing lots of outdoor activities and am planning tramping trips for every weekend I'll be here. The only thing I miss being in New Zealand is mammalian life. The only endemic mammals of New Zealand are two species of bats, which I have yet to see. However, I have seen quite a few introduced sheep and hedgehogs. I went to a zoo today in the hopes of seeing the elusive Kiwi, but sadly they were all hiding in their exhibit, so I still have that to work on. But the beautiful scenery and interesting people of New Zealand far outweigh the lack of native fauna, in my opinion". *Keri Smith ('11) 2 March 2011*

### **In November 2010 several of our students attended the Mid-States Consortium for the Undergraduate Research Symposium in the Biological Sciences and Psychology at the University of Chicago. The following Biology students presented:**

**Jonathan Brooks ('11):** Carbon Sequestration by Forest Trees at the Hope College Nature Preserve

**Kyle Edewaard ('11):** Identifying Global Transcription Sites in the Genome of *Giardia lamblia*

**Anne Georges ('12):** Identification of Trafficking Motifs that Control Constitutive and Regulated Trafficking of System xc-

**Matt Hartwell ('12):** Oxidative Stress Causes Modifications and Decreased Function of System xc-

**Emily Leathley ('11):** Interactions between Galanin-Like Peptide (GALP) and Estradiol in the Control of Energy Homeostasis and Reproduction in Female Rats

**Robert Muterspaugh ('12):** Isolation pure compounds from seeds of *Bocconia frutescens* to test for anti-fungal activity

**Anne Short ('11):** Identification of Fungistatic Compounds in the Seeds of *Phytolacca rivinoides*, a Costa Rican Cloud Forest Plant

**Ingrid Slette ('12):** Isolation and Identification of Fungistatic Compounds from Seeds of *Guettarda poasana*

**Angelica Willis ('12):** Mutation analysis of VACM-1/cul5 exons in T47D

## Phage One - Where are they now?

Participants in the first cohort of Phage Genomics Research students (Fall 2008), the HHMI-affiliated honors biology lab for freshmen, will be seniors next fall! This has been a particularly research-active group of students, and to kick off a “where are they now?” theme, we decided to track just one example from the “Phage One” cohort, **Courtney Long ('12)**, who is currently “*etudie en France*” (see front page)! During the summer of 2009, Courtney worked with Drs. Greg Murray and Kathy Winnett-Murray on a study of forest dynamics at the Hope College Nature Preserve. Her research partner was **Kelsey Reimink ('11)**, who participated in the HHMI Science Education Scholars program. Courtney and Kelsey spent hours and hours wading through the thorn-laden understory of the dune forest, setting up a long-term study on seed bank dynamics that will provide data on seed survivorship for the next 10-20 years. Courtney also studied the effect of forest edges on the dispersal of seeds. Courtney and Kelsey also traveled to Costa Rica that summer to gather data from the long-term tropical forest transects monitored by Dr. Murray every year. There, they decided that wading through cloud forest understory made the HCNP forest understory seem cream-puff! During the summer of 2010, Courtney secured a summer research position with the IM-SURE (Introductory Multicultural Summer Undergraduate Research) program in Missoula, Montana. There, she worked with Dr. Michael Ceballos, the director of a NARL (Native American Research Lab). Along with other students in the NARL lab, she gained experience studying *Sulfolobus*, archaeaic micro-organisms that require extremely high temperatures for growth. They are typically found in geothermal “hot spots” and/or volcanic hot springs. She conducted research to examine the *Sulfolobus* spindle-shaped virus system (SSV), which is part of the family of viruses Fuselloviridae. Her team was particularly interested in testing theories on local adaptation by taking viruses from their sympatric (local) host and testing them on allopatric (foreign) hosts for viral performance (measured by combining viral rate of replication and degree of virulence to determine viral fitness). In a broad sense, Courtney was actually combining some of the skills from her phage genomics research within the context of environmental adaptation, one of her interests from summer 2009 ecology research (*in biology – everything always connects!*).

Courtney writes from France: “*Studying abroad has been one of my best decisions so far! Here in Rennes, France, I am surrounded by a deep sense of history and filled again and again with a deep sense of awe for the culture I have admired for so long...I have learned that I can be confident, brave, and very strong. Studying abroad shows you parts of yourself that have been there all along, and teaches you life lessons that can be applied back home. It is a great experience, that I can never regret.*”

Along with several other students, Courtney helped present a fall 2010 seminar that highlighted bio students who are “Out There! Doing Biology”! The number and diversity of opportunities in biology has never been greater – so, follow Courtney’s example and get “out there” to learn what interests you!



Courtney Long ('12) and Kelsey Reimink ('11) studied forest dynamics together at the Hope College Nature Preserve during the summer research program 2009



Courtney Long and fellow Phage One students visit the Western Michigan University Biological Imaging Center to conduct a portion of their phage research during the '08-'09 academic year.

# BioBriefs!

**Jonathan Oldham ('11)** has been accepted to the University of Michigan School of Public Health; he will seek a Master's Degree in Nutrition.

**Jonathan Brooks ('12)** will be a research intern at Oak Ridge National Laboratory this summer, working in the lab of **Dr. Colleen Iverson ('01)**, a 2001 Biology alumna who is now a staff scientist at ORNL. Colleen visited to present a biology seminar last year!



**Zachary Mobley ('11)** will be working this summer as an Avian Field Technician for SWCA Environmental Consultants. His focus is assessing the nesting habits of regionally threatened Eastern Flycatchers on the Colorado River and collecting empirical data for studies in population dynamics of flycatchers. Zack aspires to apply his acquisition of field and data management techniques to the field of Conservation Biology and Resource Management.

Zachary Mobley and friend

**Danielle Fegan ('11)** has accepted a graduate student position in a dual PhD program in Plant Biology and Ecology, Evolutionary Biology, and Behavior at Michigan State University. She will begin at MSU in the Fall of 2011.

**Jessica Whiton ('96)**, marine mammal trainer for the Shedd Aquarium in Chicago, was recently featured in *Chicago* magazine. Look for Jessica's photo with a baby beluga whale on p. 154 of the March 2011 issue! Jessica acquired her first experience with marine mammals while interning at Shedd while a biology student at Hope College.

**Nickolas Davros ('12) and Jennifer LaRoche ('12)** will be presenting the results of their summer research "Parental Investment in Eastern Bluebirds (*Sialia sialis*)" at the April 2011 meeting of NCUR (National Council for Undergraduate Research) in New York.

**Tim Laman ('83)**, biologist and world-renowned nature photographer, has published his work in a diverse array of premiere magazines and publications, especially *National Geographic*. Look for one of Tim's most recent photos on p. 6 of the March 14, 2011 issue of *Time* magazine! You can also visit his Wildlife Photojournalist website at: <http://www.timlaman.com/>.

**Julia Becker ('11)** was selected as one of 60 students nation-wide to present at Posters on the Hill in the Fall of 2010. She was also selected to present a special award to Congressman Ehlers.

**Bethany Fox ('12)** will be participating in the Fall 2011 Semester program in Global Health in Costa Rica through the Organization for Tropical Studies ([www.ots.ac.cr](http://www.ots.ac.cr)).

**Nicholas Davros ('12)** presented a workshop on "Feathers and Function: Giving Flight to the Future" for a K-12 teacher audience at the Annual Science Update seminar at Grand Valley State University PEW campus in November 2010.

**Erica Jansen ('12)** completed the Tropical Ecology and Conservation program through CIEE (Council for International Education Exchange) from August through December 2010; she was based primarily at Monteverde in the Cordillera de Tilaran of northwestern Costa Rica.

## BioBriefs Continued...



D. Travis Williams ('98) accepting his Informal Science Educator of the Year award, pictured with his biologist wife, Stephanie Jones ('99) Williams

**David Travis Williams ('98)** received the Informal Science Educator of the Year award from the Michigan Science Teacher's Association at the association's February 2011 annual meeting. Travis is the Executive Director of the Outdoor Discovery Center Macatawa Greenway of Holland, Michigan. Through the diverse environmental education programs he has developed, Travis and his staff have impacted the lives of thousands of children, teachers, and community members through high quality environmental experiences. Travis helps provide numerous opportunities through Hope student internships each year.

**Nicholas Duthler ('09)**, who interned at the Outdoor Discovery Center- Macatawa Greenway while a student at Hope, has recently been accepted to the Master's Program in Sustainable Business at Aquinas College. Nick aspires to combine his biology background with sustainable business practice and resource management/development.

**Hilary Bultman ('12)** has accepted a summer research position with a research team from the University of Wisconsin (which includes David Hoekman and **Jamin Dreyer ('06)**); the team has been studying the ecosystem-level impact of midge pulses in Iceland.

**Jennifer LaRoche ('12)** has accepted a summer research position with the Montana Cooperative Wildlife Research Unit to work with Tom Martin and Matt Hemenway to study the influence of habitat structure on nest success of songbirds.

**Amanda Ferguson ('10)** has accepted a short-term position as a Botany CLM (Conservation and Land Management) intern in Carson City, Nevada.

**Jessica Howe ('10)** was recently accepted to the Veterinary School at the University of Edinburgh!

**Avril Wiers ('09)** is currently enrolled at Alaska Pacific University Master of Science in Outdoor and Environmental education program.

**Angela Stoyanovitch ('08)** recently attended the national AALAS meeting (American Association for Laboratory Animal Science) in Atlanta, GA. Ang has been working in preclinical animal testing at MPI since graduating from Hope and has become increasingly involved in a leadership role with the Michigan branch of AALAS, which focuses on professional development and caretaking of laboratory research animals. Ang may be in grad school soon – stay tuned!

**David Hayes ('13) and Richard Jones ('13)** are both doing internships at Michigan Butterflies right now and during summer.

**Alexa Jansma ('08)** just finished her "in class" classes at vet school and is moving on to a year of clinical rotations at Iowa State University. Thanks to Alexa for frequently sending us internship postings for our current students!

**Ingrid Slette ('12)** will be doing research at the University of Michigan Biological Station.

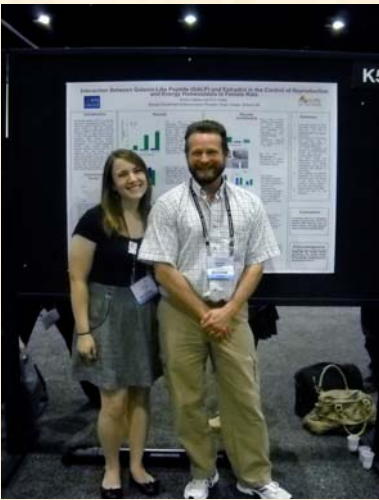
## BioBriefs Continued...

**David Fraker ('09)** has accepted a position with the National Park Service working in Mt. Rainier National Park starting in April!

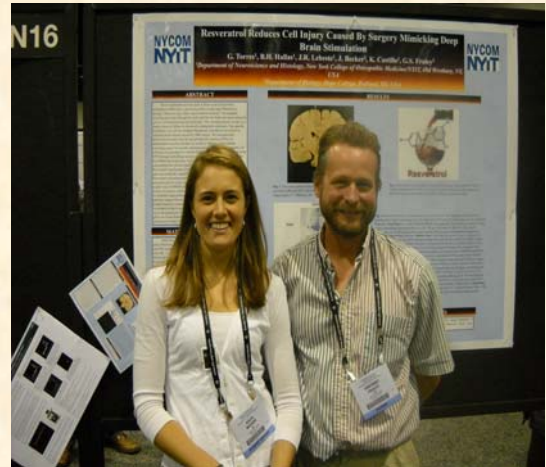
**Meredith Whitehead ('14)** has secured a summer internship with Jungle Friends Primate Sanctuary in Gainesville, FL.

**Kelsey Moore ('12)** will be participating in the Amgen Scholars Program, Biology and Biomedical Sciences, Washington University, St. Louis, MO.

**Julia Becker ('11) and Emily Leathley ('11)** traveled to San Diego, CA with Dr. Greg Fraley, to present their data at the Society for Neuroscience Annual Meeting.



Emily Leathley, left, ('11) with Dr. Fraley in San Diego



Julia Becker, right ('12) with Dr. Fraley in San Diego

**Jeffrey Vredenburg ('11)** was recently awarded a Fulbright Fellowship! He says, "The goal of the Fulbright Program is to increase mutual understanding between the citizens of other countries and Americans. The Fulbright Grant to Ecuador that I received gives me the opportunity to teach English part-time as well as the freedom to work with local conservation and sustainability organizations. Although Ecuador has some of the most biologically diverse areas in the world, its resource management education program is underfunded and understaffed. I will work with local communities to facilitate understanding of the cause and effect relationship between good stewardship of resources and ecological soundness. I also plan on learning an indigenous language, playing soccer and taking lots of pictures."

**Anne Geoges ('12)**, BMB major highlighted on p. 2, has just been awarded a prestigious Goldwater Scholarship. Anne will use the scholarship to conduct research mentored by Dr. Leah Chase on "Identification of Trafficking Motifs Involved in Constitutive and Regulative Trafficking of System xc-". Anne was also awarded a Travel Award to attend the Experimental Biology meetings in Washington, D.C.

**Christina Bowles ('11)** has been offered an invitation to join the Peace Corps and plans to work in Sierra Leone where she will be primarily a secondary science teacher. Christina is excited that she will also be able to work on public health oriented projects within the community, including HIV/AIDS education and prevention.

**Club Animalia** (crew includes: Meredith Whitehead, Allyson Schenk, Catie Gammon, Hilary Bultman, Meredith Rice, Chelsea Campbell, and Nichole Harpham), kicked off an exciting new educational service program this year, called Zoo To You; they are visiting local schools to teach educational programs about animals!

On April 15, 2011, many biology students will be presenting posters at the annual "Celebration of Research and Creative Performance" at DeVos Fieldhouse. Don't miss it!

# Faculty Department News

## Sabbatical Leave Yields Microbial Genome Functions....and Southern Sun

Dr. Best is spending the 2010-2011 academic year in San Diego as a visiting researcher at the Sanford-Burnham Institute for Medical Research (La Jolla, CA). He is working in the laboratory of Dr. Andrei Osterman on several projects that will generate and refine web-based tools to aid in the analysis of microbial genomes, lead to a better understanding of how the human pathogen, *Staphylococcus aureus*, regulates its genes, and use metabolomics techniques to explore the effects of new anti-microbial agents on the metabolic activity of bacteria. Dr. Best is also enjoying extended time with his family as they explore San Diego and surrounding areas. Dr. Best highly recommends missing a Michigan winter every now and then – it is highly therapeutic!



Dr. Best and his family (Kelli, Carl, Nora and Alejandro) enjoy a trip to Joshua Tree National Park in January of 2011.

## Resurrecting Natural History

Dr. Greg Murray spent his spring break attending a National Science Foundation-sponsored workshop on “Natural History in Education” at the Pack Forest Research Station in Washington, meeting with other ecologists and naturalists to devise plans to re-invigorate the role of natural history in education. According to the Natural History Network (<http://www.naturalhistorynetwork.org/>), the practice of natural history is in decline – there has never been a moment in history when natural history was practiced less than today. “Mindful awareness of our living world has been replaced by a myopic focus on the human world and a sedentary submerging in electronic media. The humility, insight, and sense of the world’s interconnectedness once provided by natural history have been lost, leading to a widespread state of “nature deficit disorder.” Nature study has been eliminated from school programs, college catalogs, and popular culture. This loss has fostered both social and environmental calamities.” The Natural History Network was established in 2007 to promote the value of natural history by discussing and disseminating ideas and techniques on its successful practice to educators, scientists, artists, writers, the media, and the public at large. For more information, visit the Natural History Network website, and watch for pulses of natural history to continue to be infused into the Hope biology curriculum!

Dr. Greg Murray pictured with longtime friend and Ph.D. mentor, Dr. Peter Feinsinger, who participated in the Natural History Initiative at Pack Forest Research Station, Washington in March 2011. Feinsinger has played a key role in revitalizing natural history and inquiry-based science education throughout Latin America as well as in the U.S.A.



## Alumni Return to Hope for Biology Seminar Program

Seminars are a great way to learn about prospective careers!



Justin Grobe ('01) returns to the Hope College campus to deliver a research seminar for the biology program. Justin studies the hormonal regulation of circulatory system dynamics and metabolism.



Brenna Lamphear ('09) in her graduate Physician's Assistant

**Dr. Justin Grobe ('01)** was the featured Biology seminar speaker on March 11, 2011. Justin currently holds a postdoctoral research position at the University of Iowa. His talk was entitled "*The Brain Renin-angiotensin System: Regulation of Fluid Balance and Metabolism*" and highlighted Justin's most recent work on the hormonal regulation of circulatory dynamics in mammalian models. His current work is focused on mapping the angiotensinergic signaling circuitry within the brain that mediates metabolic, fluid balance, and blood pressure control. If this sounds not-so-vaguely similar to work of the "Hope College Water Regulation Research Institute" of the past, you guessed right! Not only was Justin one of the charter members of the WRRRI, working in Dr. Chris Barney's lab through nearly his entire stint at Hope, he also initiated an infamous, and short-lived string of "Greenhouse Luau's" as president of TriBeta (BBB)!

**Brenna Lamphear ('09)** is completing the Physician's Assistant Program at Grand Valley State University and was the featured seminar speaker on January 21 this year. Brenna delivered a practical and professional talk entitled "*The Survival Guide to Getting Into a Physician Assistant Program (and not jumping out the window once you get there)*." Her presentation was filled with valuable advice for students who might be interested in P.A. graduate school, and Brenna effused an incredible level of passion for her new career! It is clear that she loves being a P.A. and that her program at GVSU is one that is instilling a positive sense of community among the P.A. students.

**Mary VerHuelen ('05)** Klyne gave an inside perspective on a different area of health careers with her seminar on March 4 entitled: "*What does a career in public health look like? Examples from Michigan's Newborn Screening Program*". Mary works in the Division of Genomics, Perinatal Health, and Chronic Disease Epidemiology at the Michigan Department of Community Health. Her presentation highlighted how her work involves multiple analytical methods and problem-solving skills as she works with large databases to discern patterns in newborn health issues. Mary emphasized that her rigorous science background at Hope helped prepare her for learning advanced analytical techniques in graduate school; through her job, she is having a positive impact on developing proactive policies to improve infant health in Michigan!

# Photo Gallery



Lauren Brierley ('08) is currently studying avian communication systems while pursuing a Master's Degree at Purdue University.



Nickolas Davros ('12) presented a workshop on "Feathers and Function: Giving Flight to the Future" at GVSU in November 2010.



Vince Ganapini ('09) providing medical assistance on a medical mission trip in Peru. Vince is currently finishing medical school at the University of Michigan.



Emily McConnelly ('09) is currently working on her Doctor of Veterinary Medicine at Michigan State University.



Seen kayaking the Manistee river, Brendan Krueger ('09) has accepted a position at the Calypso Farm and Ecology Center Community Share Agriculture Program, in Ester, Alaska.



Jacquelyn Randolet ('09) is using robotic Dark-eyed Juncos to test behavioral responses of real juncos to sensory cues when subjected to various social/flocking situations; Jacquelyn is currently in the PhD program at Purdue University.

## Photo Gallery Continued.....



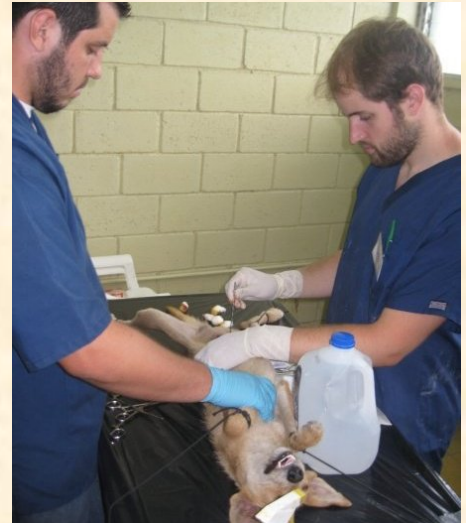
Nicole VanderKolk ('10) Lundy following "white coat ceremony" at Lake Erie College of Osteopathic Medicine.



Zachary Mobley ('11), far right, seen with crew and meadowlark chicks, during wildlife ecology summer research position at the University of Wisconsin, summer 2010.



Avril Wiers ('09) is currently attending Alaska Pacific University's Master of Science in Outdoor and Environmental Education in Anchorage, AK.



Jon Dean ('09), far right, is undertaking graduate study in the DVM-PhD program at the University of Minnesota.



Jessica Vickery ('08) shown here with fellow Occupational Therapists, testing "lycra layers", which is a web of multiple layers of lycra fabric that kids can go in for sensory stimulation. Jessica's OT graduation (August 2010) presentation was entitled "Effects of Priming in Road Signs and Their Impact on Driver Safety: A Pilot Study Using a Driving Simulator".



Kalli Shades ('12) completed a study abroad program called Creation Care Study Program in Belize during the summer of 2010.



**Ever wonder what to do with that double major?** Jennifer Fait ('10) did research in the Fraley lab while at Hope and was accepted to medical school but she deferred for two years in order to be one of the Radio City Music Hall's Rockettes! Jenn is under the arrow in the photo!

## Photo Gallery Continued...



James DelBene ('12), on the ferry to Taronga Zoo, Australia. James is living in Coogee, just a 5 minute walk from the beach while enrolled in an Ocean to Estuarine Ecosystems program on study abroad.



Drs. Fraley (4th from R, back row), Bodenbender (far R, red pouch), and Hansen (3rd from L, front) led Geology and Biology students on a caving trip through Salamander Cave (Indiana), November, 2010.

## Twinkie Resurfaces!

Following almost a year of staying undercover, the Twinkie has come back from “sabbatical leave” to rejoin the exploits of Biology department members. Some of you have been around long enough to know that the Twinkie first made his/her public appearance in the Spring 2008 newsletter and has travelled in at least 3 continents since that time. Subject to a diverse array of harrowing adventures, the Twinkie has escaped being eaten by a Black Rat Snake in the Mohonk Reserve in New York, has survived tropical downpours in Central America, and has even gazed upon Mount Kilimanjaro after avoiding being stolen from a traveling student’s luggage. Still, the original Twinkie persists (although it may actually consist of a larger variety of organisms, genomes, and compounds than it did in 2008), and recently took a break with an undisclosed professor to vacation in Punta Cana, Dominican Republic.



Twinkie on break in Punta Cana, Dominican Republic

Now that Twinkie is back from leave, it will be making it’s way back to the college where it will call Gloria Taylor’s office home. She will ensure that Twinkie is well cared for. Those students and faculty who wish to take Twinkie on an expedition, will need to fill out the proper forms and waivers.