

BIOFEEDBACK

Winter 2015-2016

Newsletter of the Andrews University Department of Biology



BIOBOOST JUMPSTART YOUR LEARNING

Our first annual BioBoost program was held this year during New Student Orientation Week, August 16-22, 2015. The goal of this program was to give students a headstart in Foundations of Biology and in many of the learning skills needed for success in biology. So while many new students were playing games, our BioBoosters were studying hard!

The week began with a luncheon for students and parents on Monday afternoon during which introductions were made and goals discussed. There was a lot of excitement with the beginning of a new school year, and probably some apprehension as well. But we launched right in, spending Tuesday and Wednesday

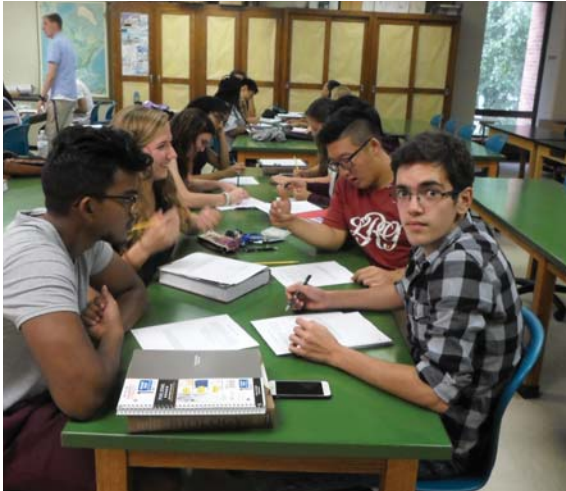
afternoons and evenings doing the hard work of studying biology and learning how to learn, guided by Dr. Zdor and Dr. Lyons. Evaluations in the form of quizzes and tests were given at a number of points throughout the week, but since these evaluations didn't count toward a grade, the stakes were low and the learning value was high!

We had the privilege of being visited several times throughout the week by other members of our university community. Tiffany Seibold and Carletta Witzel from the Student Success office shared with us how best to navigate college and how to take advantage of the tutorial services they offer. A team of student mentors, current biology majors, also spent time with BioBoost developing comradery through team games and sharing their accumulated wisdom on how to succeed in biology.

On Thursday of BioBoost we had a change of pace. Following a pizza lunch, we all loaded up on a bus and headed to Love Creek Nature Center, where Pat Underwood led us through a service project in which we trimmed out invasive honeysuckle bushes to allow native species room to grow. This was some hard work, but welcome following a lot of head work. The day ended with supper at the Zdor and Lyons homes.

Was BioBoost worth it? Our faculty are currently analyzing survey and course data to determine this (although our participant numbers may be a little low to tell from this year only). However, one thing that we can say for sure: a clear outcome of BioBoost was student comradery and a strong support group of like-minded students. We think that this alone was a resounding success! Check out some of our photos on page two!

IN THIS ISSUE: BioBoost - A wildflower walk - Barbara A. Reid Graduate and Teaching Assistant Suite - Student and faculty travels: presenting our research - From bats to ethnobotany: talking science - A Michigan rattlesnake! - Publications - Alumni calling songs - Jim Hayward retires - A summer in a leper colony



Above, clockwise from top left. 1. Student mentors (l-r) Andrew Walayat, Randy Sanchez, Re'Jeanne Greene, and Heaven Shin share study tips that have worked for them in their biology classes. 2. Following some honeysuckle pulling, BioBoosters relax while waiting for the bus to return them to campus. 3. Students work together on an assignment during BioBoost.

Below, clockwise from left. 1. Dr. Goodwin points out some of the many incredible wildflowers to be seen along the Andrews University trails. 2. Students enjoying a beautiful Sabbath afternoon walk: (l-r) Nelson Starkey, Allie Chacko, Seth Stacey, Joanne Lee. 3. More students, and an alumnus, along for our wildflower walk: (l-r) Ehren McLarty, Jeremy McLarty, Mindy McLarty, Sumiko Weir.



Wildflower Walk

Once spring comes in Michigan, the wildflowers come out in abundance - flowered trillium carpet many hillsides as one walks through the trail system on the Andrews property. This past April, BioPhilia, the Biology student club, organized a Sabbath afternoon wildflower walk to explore God's handiwork! A number of students, as well as some faculty, staff, and alumni, enjoyed the afternoon together.

We hope to continue having events like this in the future - the Andrews campus has much to offer. Notably, this system of trails is a hot-spot for mountain bikers. Recently, the Northern Indiana Mountain Bike Association (NIMBA), a chapter of the International Mountain Bike Association, donated 35 signposts to the Andrews University trails, to aid in navigation through this complex network.

Barbara A. Reid Graduate and Teaching Assistant Suite

Graduate students and head teaching assistants in biology now have a home! The Barbara A. Reid Graduate and Teaching Assistant Suite was unveiled over alumni weekend in September 2015 and provides office and study space for 5 graduate students as well as a comfortable social space.

The space has already been put to good use. "I have made this room my second home," notes Athena Smith, first year graduate student. "It is the perfect place to study and socialize with other biologists." Second-year grad student Jemma McLeish agrees. "Because I spend most of my time and days in Price Hall, this new suite is my home away from home."

The suite was created to honor the memory and legacy of Dr. Barbara A. Reid (1947–2014), who found her passion for science and science education as a biology student at Andrews University (BA 1968). She served in Seventh-day Adventist science education for well over 30 years, teaching at upper-grade elementary and academy levels before going on to teach in higher education, including 7 years on the faculty of the School of Education at An-

draws University. Dr. Reid's commitment to Andrews University was strong, and a generous gift from her estate helped fund the renovation needed to create this suite.

A citation in the new suite reads as follows: "Dr. Reid was a dedicated educator committed to science literacy for all

through excellence in science education. She recognized that excellence in the classroom could not be achieved in a vacuum: behind every great teacher, there is a network of mentors and colleagues. We trust this space will help inspire future generations of biology educators."



Left. Graduate students Mashael Alaradi, Jemma McLeish, and Athena Smith pose for a photo in the new study space. Above. Dennis Woodland, Daniel Gonzalez-Socaloske, Roshelle Hall, and Mindy McLarty enjoy Tea Time in the adjoining social space. Right. Also included in the Barbara A. Reid Suite is a small kitchenette.



Speaking of New Additions...

Biotechnology Program: This fall was the inaugural year for our new biotechnology program, a joint program with the Department of Chemistry & Biochemistry. Our incoming class consisted of 6 students, a respectable number for a new program. Thanks to the presence of these students, some of which were transfer students, we offered *Molecular Lab Techniques* for the first time in many years, taught by Dr. Denise Smith. Erika Bauza, a student in this class, commented that she "really appreciates the personal attention in a small class like this." Next semester our biotechnology students will be taking an *Introduction to Biotechnology* seminar course, in which they will learn about the many opportunities within this field. If you'd like to



learn more about this program, contact Dr. Peter Lyons at lyons@andrews.edu, or go to our website: www.andrews.edu/undergrad/academics/programs/biotechnology

Water purification system: It has been some time since our still has been functional, and so we have relied on distilled water purchased from local sources. The need for a reliable source of ultrapure water for molecular biology and biotechnology applications has been pressing, and so early this year a Millipore Synergy Ultrapure system was purchased. This system will produce pyrogen and RNase-free water of the highest quality (18.2 MOhm).

Autoclave: Due to an increase in cell, molecular, and virology research in our department as well as the new biotechnology program, there has been a need

to improve our sterilization capabilities. Early this year we were able to purchase a modern autoclave which will support us for many years to come.

Both of these purchases were made possible by the generous and continued support of our loyal friends and alumni. We thank you for your support, both financial and otherwise. If you're in the area, please stop by!



Student and faculty travels: presenting our research

Dr. Daniel Gonzalez-Socoloske, assistant professor of biology, attended the 16th annual conference of Marine Mammal Specialists in Latin America in Cartagena, Columbia from December 1-3, 2014. An invited speaker, he gave a talk titled "Sonar, hidrófonos y hojas de banana: Métodos innovadores para estudiar sirenios en América Latina [Sonar, hydrophones, and banana leaves: Innovative methods to study sirenians in Latin America]." He also co-authored a talk, along with Dr. Mumi Kikuchi (1st author), on the "Application of animal-borne digital recorders to monitor the movement and feeding events of manatees."

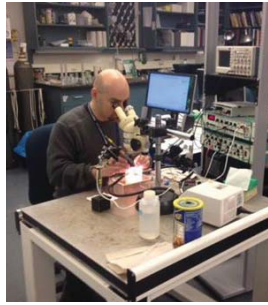
In December of 2014, Nelson Starkey (BS 2015, currently at Loma Linda University) and his research advisor Dr. Kanya Long traveled to Iquitos, Peru



to research the gut microbiota of mosquitoes and its effect on disease vector competence. Nelson was the first student to be funded by the Dennis Woodland Field Research Fund, a fund instituted just last year to support small grants to current students who are engaged in field-based investigations in biology. While in Iquitos, Nelson collected two species of mosquito from the San Juan district of Iquitos and the forest near the village of Zungaro Cocha for identification and DNA analysis. This trip was valuable for Nelson, not only because it involved real-world science,

but also because of the opportunity to work with people of a different language and culture.

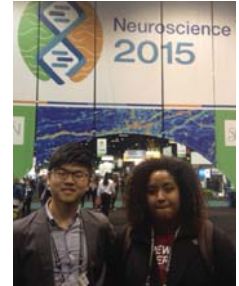
From January 5 to 8, 2015, Dr. Benjamin Navia attended a neurobiology workshop held at Cornell University, sponsored by the Department of Neurobiology and Behavior at Cornell and ADInstruments. The workshop was taught by prominent neurobiologists Ron Hoy and Bruce Johnson, both from Cornell's Department of Neurobiology and Behavior. The purpose of the workshop was to improve the teaching of neurobiology at the undergraduate level, using preparations and techniques that will enrich the lab experience of students enrolled in neurobiology at Andrews.



On March 13th, 2015, the Annual Michigan Academy of Science, Arts and Letters (MASAL) meeting was held at our own Andrews University. So we didn't have far to travel! Many members of the

Department of Biology presented in various sections, including Biochemistry and Molecular Biology, Chemistry, Environmental Science & Ecology, and Zoology. In addition, professors Jim Hayward (Biology) and Shandelle Henson (Mathematics) presented the keynote lecture, which explored the links between climate change and seabird ecology.

From October 17-21, 2015, Dr. Benjamin Navia along with seniors Re'Jeanne Greene and Jeong Bin Lee attended the 45th annual meeting of the Society for Neuroscience which took place in Chicago. Re'Jeanne and Jeong Bin had the opportunity to present their research at a poster session and were able to interact with other students as well as experts in the field. Dr. Pamela Litvak

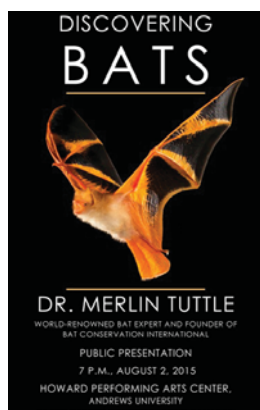


also attended and presented part of the MS thesis work of one of her recent graduate students, Mikyung Kim, who is currently in a PhD program in South Korea studying exercise physiology.

From October 25-29, 2015, Dr. Kanya Long and grad student Jemma McLeish attended the annual meeting of the American Society of Tropical Medicine and Hygiene. Dr. Long was a coauthor of two abstracts discussing the transmission of dengue virus.

From Bats to Ethnobotany

Dr. Merlin Tuttle, an ecologist, wildlife photographer and conservationist who has studied the wonders of bats for over 55 years, was awarded an honorary doctorate at the summer convocation



ceremony here at Andrews. An Andrews University biology alumnus, Tuttle completed his graduate work at the University of Kansas. He

is known for his scientific discoveries, media appearances, popular articles, and photographs of bats, which have been featured in the British Museum, Wall Street Journal, The New Yorker and National Geographic. In the evening following graduation, Tuttle gave a public presentation at the Howard Performing Arts Center entitled "Discovering Bats." Dr. Tuttle also visited our Museum of Natural History, which contains a number of bat specimens that Dr. Tuttle himself helped to collect.

Dr. Merlin Tuttle (right) examines bat specimens in the Andrews University Museum of Natural History, together with student Jeremy McLarty (center) and Ryan Postema (left), Land Protection Specialist for a local land protection society, Chikoming Open Lands.



A Michigan Rattlesnake!

A rattlesnake in Michigan, you say? Yes, in fact Michigan is considered one of the last strongholds for the massasauga rattlesnake (see map of distribution). This small snake lives primarily in wetland areas and is shy and secretive, which is why most Michiganders have never seen one. Unfortunately, this species is currently on the Michigan Department of Natural Resources (MDNR) list of "Species of Special Concern" thanks to wetland habitat loss and persecution by humans. Little is known about the distribution of the rattlesnake, the size of local populations, and their stability.

Although this species is rarely sighted, early in 2014, a steward of a local preserve managed by Chikaming Open Lands found a dead specimen. A partnership between Ryan Postema of Chikaming Open Lands and Dr. Daniel Gonzalez-Socoloske, assistant professor of biology, was initiated to

conduct a survey of the population within this preserve.

"I was initially contacted by Ryan to help them confirm the presence of a population. While my specialty lies in manatees, I did have the privilege of working with rattlesnakes during my master's at Loma Linda University" commented Gonzalez-Socoloske.

As this rattlesnake has protected status, Gonzalez-Socoloske and Postema obtained a special permit from the MDNR and traveled to Loma Linda to obtain training in snake handling and capture.

After placing a number of "funnel traps" in appropriate locations within the preserve this May, a large healthy male was captured. The snake was tagged with an identification chip and assessed for health and size. "We were very lucky to find a snake in our first season" Gonzalez-Socoloske said. Despite not finding another specimen, this adult snake, along with the dead specimen from the previous year, provide evidence of a resident population.

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The hope is that this initial work will enable long-term assessment of the massasauga population within Berrien county and lead to a better understanding of the ecological needs of the species to enable more effective preservation. Two Andrews University stu-

dents, Roshelle Hall and Jeremy McLarty, participated in the snake surveys. Hall is now extending the study as a part of her master's thesis.

Jim Hayward Retires

In September of this year, Jim Hayward officially retired. But did he really retire? We all know that many scientists have difficulty in "retiring", and the same holds true for Jim.

While he has changed his official designation to *Emeritus*, he is still present and contributing to the department in many ways. Most significantly, he continues as co-PI, together with Shandelle Henson (Math), on a major NSF grant to study the relationship of climate change and seabird ecology. And so he continues to do what he most loves - thinking and studying and researching a fascinating part of the natural world.

Jim, we wish you well in your "retirement". It continues to be a joy to interact with you as you continue on here at Andrews.



...Talking Science



Changing World." Andrew's research is focused on the effects of modern technology on traditional medicinal practices in the Yoreme territory in Mexico. He studies the traditional uses

of *Ibervillea sonora* (commonly referred to as wereka in Mexico) as well as its biochemical functions in the lowering of blood sugar levels.

Carrie Langbo MS, CGC, from the Michigan Department of Community Health, visited us in February and shared how the Michigan BioTrust program benefits society. Blood spot samples that are

taken from newborns aid in determining diseases or conditions that a child may have, such as cystic fibrosis or severe combined immunodeficiency disorder, and this early diagnosis can lead to improved personalized medicine.

In January we had the privilege of hearing from Dr. Jorge Angulos-Valdes, Head of Marine Conservation at the Center for Marine Research at the University of Havana in Cuba. This research center focuses on the conservation of marine ecosystems and sustainable development of local areas. The center offers several undergraduate and master's programs and one Ph.D. program, all of which concentrate on Marine Biology, Aquaculture, and Integrated Coastal Zone Management. Research projects at the marine

center include the study of sharks, sea turtles, and coral reefs and fish, as well as recovery of the Cuban manatee population, of which our own Dr. Daniel Gonzalez is a part. This work was featured in the 2015 issue of Andrews University Research Brochure, which can be found at <http://digitalcommons.andrews.edu/researchbrochure/>.



Publications



Daniel Gonzalez-Soclosce, assistant professor of biology, published a paper entitled, "First successful capture and satellite tracking of a West Indian manatee (*Trichechus manatus*) in Panama: feasibility of capture and telemetry techniques" in the *Latin American Journal of Aquatic Animals* (Vol. 10, No. 1). This study focused on a new way of baiting and tagging manatees in places where other techniques (e. g. photo identification) are not effective. The research team successfully captured the manatee, a young female, in San San Pond Sak, Panama, by baiting it with banana leaves. They then tagged it with a tether peduncle tag. This research confirmed the feasibility of using the tag and bait techniques in the complex mangrove habitat in which the manatee was captured.



Marlene Murray, associate professor of biology, had a paper accepted for publication entitled "The effect of gender on perception of case studies and performance." Dr. Murray has used case studies in genetics for a number of years, and she draws from this experience in her paper, which will be published in the January/February 2016 issue of the *Journal of College Science Teaching*.



Benjamin Navia, associate professor of biology, was senior author on a paper published in *Physiological Entomology* (Vol. 40). This paper, entitled "Parallel effects of temperature on the male cricket calling song, phonotaxis of the female and the auditory responses of the L3 neurone," shows how variation in temperature affects the call of the male cricket as well as the behavioral and neuronal responses of the females to such calls. This research was done with former Andrews students **Christina Burden** (PhD student at Arizona State University), **Tori Steely** (biology instructor at Battle Creek Academy), **Helen Hasegawa**, and **Esther Cha** (medical student at Loma Linda University), as well as with Professor Shandelle Henson (math), Emeritus Professor Jack Stout (biology), and Gordon Atkins (adjunct professor of biology).



Rob Zdor, professor of biology, published the article "Bacterial cyanogenesis: impact on biotic interactions" in the *Journal of Applied Microbiology* (Vol. 118, No. 2). This article reviews the influence of cyanogenic bacteria on other organisms. Bacteria that can produce hydrogen cyanide inhabit a number of habitats ranging from the human lung to plant tissues. This publication outlines the implications of understanding such variety (like diagnosing bacterial infections of the cystic fibrosis lung using a breath test for cyanide) and manipulating this trait for improved pest and pathogen control.



Kanya Long, assistant professor of biology, co-authored three papers in 2015, representing work that began during her time in Peru (2010-2012) and that carried through to last summer (2014) here at Andrews University.

"Multi-country prospective clinical evaluation of two ELISAs and two rapid diagnostic tests for diagnosing dengue fever," published in the *Journal of Clinical Microbiology* (Vol. 53, No. 4) by Subhamoy Pal and colleagues, evaluated four assays for the diagnosis of dengue fever. Using prospectively collected samples from four countries, including Peru, Venezuela, Cambodia, and the United States, the team determined the sensitivities and specificities of each assay and provided performance data to inform the management of dengue cases.

In an article published in *Emerging Infectious Diseases* (Vol. 21, No. 10), "Evolutionary and ecological characterization of Mayaro virus strains isolated from the first reported outbreak in Venezuela, 2010," Jonathan Auguste and colleagues provided the first analysis of full-length sequences of Mayaro virus, including isolates from a 2010 outbreak of Mayaro fever in Venezuela. In addition, the team identified a new genotype, genotype N, of the virus from Madre de Dios, Peru.

"Asymptomatic humans transmit dengue virus to mosquitoes," by Duong, Lam-brechts, and colleagues, in press in the *Proceedings of the National Academy of Sciences*, presented evidence that people with asymptomatic dengue virus infections can transmit virus, suggesting their potential to contribute to dengue epidemi-

ology. Capturing dengue fever cases in a hospital in Phnom Penh, Cambodia, and recruiting healthy neighbors of the index cases, the study team identified infected individuals who did not develop symptoms and found that their blood could infect mosquitoes in the laboratory.



Jim Hayward, professor emeritus of biology, co-authored five publications in the past year (student names in bold).

"Aqueous transport of gull nests and eggs: Taphonomic implications for fossil amniote nests," published in *Palaeos* (Vol. 30, No. 5) and coauthored with **Amanda Sandler**, describes the transport of gull eggs and nests during high tides as an analog to the possible pre-fossilization transport of bird and dinosaur nests.

"Common ravens prey on rhinoceros auklets eggs, chicks, and possibly adults," published in the *Wilson Journal of Ornithology* (Vol. 127, No. 2) with Gordon Atkins, **Ashley Reichert**, and Shandelle Henson, provides one of the first reports of raven predation on rhinoceros auklets.

"Oviposition behavior in glaucous-winged gulls," published in the *Wilson Journal of Ornithology* (Vol. 127, No. 3) and co-authored with Gordon Atkins, **Amanda Sandler**, **Mindy McLarty**, and Shandelle Henson, provides a detailed description of egg-laying behavior in gulls.

"An evolutionary game theoretic model of cannibalism," published in *Natural Resource Modeling* (Vol. 28, No. 4) with Jim Cushing and Shandelle Henson, demonstrates mathematically that in the presence of cannibalism a population can survive under circumstances of low resource availability which, in the absence of cannibalism, would go extinct.

"Environmental constraints on haul-out and foraging dynamics in Galápagos marine iguanas" (*Journal of Coupled Systems and Multiscale Dynamics*, Vol. 3, No. 3), with **Brianna Payne**, Shandelle Henson, **Libby Megna**, and Susana Vela-stegui Chavez, provides a mathematical model to predict the timing of haul-out and foraging behavior in marine iguanas.

Also, the Seabird Ecology Team which Hayward codirects was featured in the British open source journal *International Innovation*; the article can be found at: <http://www.internationalinnovation.com/nature-makes-sense/>.

So what does a student do in the summer?...

The following is an interview with Joshua Ahn, junior biology major. This interview was conducted by Andrei Defino and originally published in The Student Movement, Volume 100, Issue 01.

What did you do over the summer?

I volunteered at several leper colonies in different parts of China for about seven weeks.

Wow. How did you end up getting all the way there?

Haha, that's a long story.

Hit me with your best shot.

I first heard about China from a testimony that a Korean American volunteer, Grace, gave at East Coast Korean Campmeeting and again at my home church. At the time, the testimony didn't have a very profound effect on me. I was intrigued, yet indifferent. Although the thought of going the following summer crossed my mind, it didn't really appeal to me.

But summer mission trips have always been a thing for you. What inhibited you this time?

There were other plans and ambitions that I had in mind, and after making that first contact with Grace, I kind of just forgot about it for a while. Nathan (Lee - a Junior music major at Andrews University) and I had also originally planned to go together, but throughout the school year, the decision was on and off.

Fast forward to second semester and my dad and I both decided that it would be better for me to just stay in the States for the summer to participate in research and start studying for the MCAT. However, I started to look into different research programs and internships around January and realized I started way too late. But it's funny how God can use our shortcomings to point us in the right direction.

To make a long story short, I missed a lot of deadlines and there were no opportunities or programs that really stuck out to me. Basically, all of the doors closed for me and all I was left with was, well, China. When I decided to stay in the States for the summer, my dad had told me to contact Grace and let her know that I wasn't going but being the procrastinator that I am I didn't contact her. Actually, I hadn't talked to her for months. In short, I didn't want this summer to end up like

last summer where I did nothing.

So you just got up and went?

Initially, I took the opportunity because it was the only thing I had left, but it became so much more than that.

How was your experience there, being out of your comfort zone and obtaining the chance to help leper communities?

It was surprising, most definitely not what I expected. I went there predominantly worried about the physical conditions. I was expecting hard, unpleasant manual labor and difficult living conditions. I was preparing my body, but when I look back, I now realize how little attention I gave to the preparation of my heart.



Sure, there was still work. I cleaned a lot of windows and took care of several grandmas and grandpas, but what truly struck me was the nature of these people. Lepers and volunteers alike were not only so focused on others, but they were so focused on God. As a result, they were happy, they were at peace.

To see myself juxtaposed against these people who were in many cases less fortunate than I truly magnified the selfishness that I never really knew I had. Not only did it make me question what I was doing and why I was there, but it struck deeper. It made me ask myself, "Why am I even a Christian?" It's a question that I soon came to realize I never had to really answer for myself. And it hit me pretty hard. You see from birth, Seventh-day Adventist had been a title that I was simply given and honestly, I think it was a title I wore because it was all I knew.

Wow, this just got really deep. It sounds like your time there really tested your faith. What was the hardest part and the best part?

The hardest part was definitely my struggle with myself. Overall, it was a very humbling experience and through many different experiences, I felt exposed and ashamed. I realized how truly self-centered I was and how powerless I was to change that.

That's where the best part comes in. The best part of the trip was the chance to experience what it truly means to fully depend on God and to walk with Him from day to day. Moreover, to see Him working, not just in other people's lives, but in my own life was incredible. Not to sound selfish but I realized that Jesus loves me and that He died for me and that He wants to save me. That's something that I now realize I had never truly grasped before.

I thought God was bringing me to China to save others, but little did I realize that God was bringing me to China to save me as well. Finally understanding that was powerful and humbling.

If you could do it all over again, would you?

Although at times, I wish certain things hadn't been revealed to me, I realize that God only wants the best for me. So the answer would be absolutely.

Joshua Ahn is currently taking a year off from school to continue his volunteer work within the leper colonies of China.

Others going abroad

The past two years have seen a number of biology students take time from their studies and careers to serve as short-term missionaries, including

Joelle Acre (Nile Union Academy, Egypt)

Kyungje Sung (Adventist International Mission School in Bangladesh)

Gabe Stanier (Bharatpur, Nepal)

Dylan Milam (Philippines)

Philip Stanier (AMOR projects, Campo Verde, Peru)

Daniel Cho (Chad)

Johnny Ahn (Chad)

Alumni Calling Songs

Ioana Danci (BS 2013) is busy in her third year at Loma Linda University Medical School. She serves as her class Social Vice-President, is the membership coordinator for the OB/GYN interest group on campus, and volunteers once a week at a San Bernardino high school, tutoring and mentoring elementary and high school students. Clearly she has a busy life, but finds it extremely rewarding. She believes that the many opportunities for getting involved at Andrews helped cultivate a spirit of service in her and she is thankful for the support received through her years at AU.

Johnny Ahn (BS 2014) was awarded the J. Harold Harrison M.D. scholarship to the Medical College of Georgia, where he began studies this year. Only 6 incoming students were awarded this scholarship—out of a class of over 200. The scholarship will cover full tuition for four years. Johnny deflects the credit for this award back to Andrews University.

“To me, this scholarship reflects the high caliber of the professors and staff in the Andrews University Biology Department,” notes Johnny, “and I am indebted to them for preparing me so well and for investing personal time and energy into getting to know me as a person. The Andrews University Biology Department has a unique culture of nurturing, and I only have fond and wonderful memories from my time in the Biology program.”

Andre Moncrieff (BS 2014) was awarded a National Science Foundation Graduate Research Fellowship for a project titled, “Understanding Large-Scale Movement Patterns of Psittacines: A Conservation Priority.” Andre submitted the proposal while still a student at AU. Andre reports his research interests as follows: “Currently, my main research interest is the genetic basis of vocal variation of Andean birds. This summer (2015) I am planning to join three fellow graduate students on an ornithological expedition

to the remote Gran Pajonal region and the river islands of the Ucayali in Peru.”

Kylynda Bauer (BS Biology, BA Music 2014) has just begun a PhD in Microbiology at the University of British Columbia to study gut microbes. Kylynda gained acceptances to four PhD programs: UBC, University of California San Francisco, University of Chicago, and Duke University. “It was a very difficult decision,” notes Kylynda. “Ultimately, I think UBC is the best fit for my research/career interests.” Her potential PhD project is intriguing: an investigation of how changes in the gut microbiota caused by malnourishment may be implicated in impairment of brain development in malnourished mammals (including humans). This has potential to lead to interventions for malnourished children, to foster healthy gut microbiota in addition to providing nutrition. Kylynda has a blog where she writes on the microbiome: theskope.com. Check it out!

We'd love to hear from you! And we'd love to share important events in your lives with other alumni via this newsletter. Send us an email or letter to let us know what is new in your life. Below are some suggestions if you don't know what to say! Photographs are great too.

Name: _____

Address: _____

Year you graduated from AU _____ AU degree _____

Other degrees since graduating from AU _____

Your current employment _____

Your current interests and activities _____



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