

# BIOFEEDBACK

Winter 2013-14

Newsletter of the Andrews University Biology Department

## CELEBRATING OUR STUDENTS

What are the ingredients of an academic environment that promote transformational education (see box—**Our Mission**)? Effective faculty, strong curricula, adequate infrastructure, and supportive alumni all play a role. We highlighted biology faculty in the last issue of *BioFeedback*, when we introduced six new members and celebrated the contributions of five faculty who retired or transitioned elsewhere.

The other ingredient? Motivated students! They are the subjects of the 2013 *BioFeedback*—and the reason we enjoy our calling, year after year. Consider the following student experiences:

- Ten graduating seniors plan to complete Honors research theses and march as *J. N. Andrews Honors Scholars*;
- Five seniors are completing second majors;
- Several have obtained career-focused or summer research internships, including one at Harvard;
- At least four have served as student missionaries;
- Multiple seniors are carrying responsibilities for teaching and mentoring fellow students; and
- One has offered Free Intelligent Conversation to Chicago urbanites. (Intrigued? Read on!)

The stories in this issue of *BioFeedback* represent only a selection of our seniors, and the experiences they have gained! Thirty-one biology majors plan to graduate this year, and a number of others will graduate next December. Although we can't mention each by name, we hope this issue will offer a "flavor" for their diversity (see box—**BioDiversity at AU**), motivation, and commitment to seek knowledge, affirm faith, and change the world.

### Our Mission

The Department of Biology provides transformational education in the biological sciences for a diverse student population, set in the context of a Seventh-day Adventist Christian worldview. (See <http://www.andrews.edu/cas/biology/about/mission.html> for full text.)

### J. N. Andrews Honors Scholars

Ten of our graduating seniors have chosen to graduate as *J. N. Andrews Honors Scholars*. This requires students to conduct original research resulting in public presentations and an Honors thesis, and to pursue a rigorous, interdisciplinary curriculum with heavy focus on the humanities.

**Jamie Kim**, a biology senior who plans a career in dentistry, reflects on her Honors experience. "I am normally a science-oriented person, so being in Honors and taking classes that emphasize the humanities has definitely been a challenge. Classes in Honors are intellectually stimulating and have helped me become well-rounded in how I approach situations that require critical thinking."

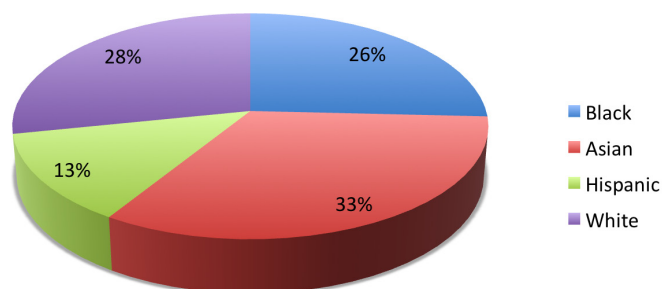


Jamie is investigating how carbon and nitrogen isotopes in soil vary spatially and are influenced by fertilizer application, and her work will contribute to a broader study of how diet is reflected in the isotopic composition of rodent teeth, to be submitted for publication in 2014.

### "BioDiversity" at AU

Did you know that Andrews University ranks in the top five most ethnically diverse campuses in the U.S.? Biology reflects this diversity (*figure to right*). Andrews students are preparing for careers in an increasingly diversified workplace—and church—in North America and beyond. We thus believe they have an edge, as they come to appreciate and work with diverse fellow students in projects, labs, and outside of class.

Ethnic Diversity of Biology Majors (Fall 2012)



## Second Majors

**B**iology is a rigorous major; most readers of Bio-Feedback know from experience. However, some biology students take on the challenge of an additional major—to explore diversified interests, broaden learning, or facilitate preparation for specific career pathways.

One of those students is **Madelyn Mauch**, a senior with majors in biology and nutrition science. Madelyn has found her majors to be closely interrelated. “I have learned to appreciate the deep relationship between a healthy lifestyle and the corresponding biological processes.”

Madelyn is preparing for a career in medicine, so this knowledge has practical value. “I hope to apply my nutritional knowledge in the future to help patients lead a healthier life.”



*Madelyn with friend in Honduras*

## Career-focused Internships

**A**nother senior with two majors is **Cherie Pryce**, who is studying biology and psychology. Cherie is preparing for a career in genetic counselling, thus both majors bear directly on her career plans.

This past semester, Cherie pursued an internship at St. Joseph Regional Medical Center, Mishawaka, IN. “My internship has not only given me insight into the day-to-day work of a genetic counsellor but has also shown me the varying dimensions of the field.”



Cherie notes how genetic counselling goes beyond issues of science. “There is the emotional aspect I’ve witnessed when patients talk about their families as well as the scientific and financial aspects involved in determining which genetic tests to give a patient.”

## Leadership

**H**onors. Second majors. Elective internships. Our students don’t take the “easy road”! This applies outside the classroom as well; several biology seniors are heavily involved as officers of thriving science-related clubs on campus.

**Elle Stout**—a biology senior preparing for a career in dentistry—is one of those student leaders. Despite taking a full load of challenging courses, Elle is serving as the president of the Pre-Dental Club at AU. She finds such outside-the-classroom experiences to be extremely valuable. “While the learning environment in AU biology is of the highest caliber, perhaps as important is the close, supportive community created by the students,” she notes. “The clubs, leadership, and teaching opportunities in the department have given me the confidence that I can thrive in leadership situations in the future.”



Elle is not alone. **Jonathan Ahn**, president of the PreMed Club at AU, and **Mindy McLarty**, president of BioPhilia (a biology club), are also biology seniors.

## Free Intelligent Conversation?

**D**oes the title catch your eye? You aren’t alone; it also caught the attention of the *Chicago Tribune*, which featured this social experiment by a group of Andrews University students. Students travel to Chicago, spread out along Michigan Avenue, hold signs offering “Free Intelligent Conversation,” and provide such—the direction of conversation usually guided by the interests of the person who stops to converse.

**Philip Giddings**, a biology senior preparing for a career in medicine, is one of those students. “We have nothing against social media,” He notes. “However, we want to promote face-to-face conversation and not lose that aspect of relationships.”

Phil has found the experience to be meaningful. “I like the connection I’m able to make with people who were strangers to me five minutes ago.”

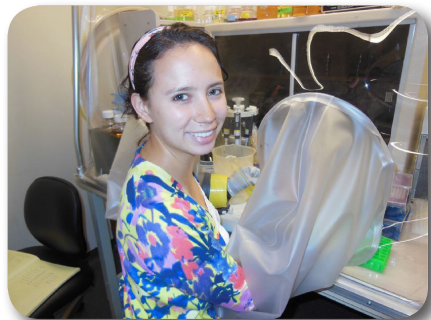


## Do Research as Undergrads...

What is the best way to learn science? Do it! Many of our majors have taken advantage of this principle as they participate in original scientific investigation during their undergraduate years. Some work with faculty on campus; others take advantage of off-campus options.

**Kylynda Bauer** has pursued several summer research internships during her undergraduate experience. In summer 2013, she worked in the Turnbaugh Lab at Harvard University, where she investigated the effects of antibiotics and diet on gut microbes along the digestive tract of mice. The data she collected are the basis for her Honors thesis.

“This was a wonderful networking opportunity,” she notes. It also provided opportunity to practice her faith in a secular environment. “Lab members were very accommodating of my Sabbath observance.”



## ... and Publish It!

Science grows as scientists collect data, develop and test hypotheses, and publish their findings. Students benefit when they publish their research.

Biology senior **Andre Moncrieff** has done just that. Based on work with the Seabird Ecology Team, Andre was lead author of a paper focused on mating patterns and breeding success of closely related gulls on Protection Island, co-authored with Libby Megna (MS 2012) and professors James Hayward and Shandelle Henson.

Andre valued the experience of working with journal editors during paper submission.

“Scientific writing has to be especially precise with each word chosen carefully.”

Andre plans to pursue a PhD in ornithology and has special interest in the diversity and conservation biology of colorful tropical tanagers of the genus *Tangara*.

Moncrieff, A. E., L. C. Megna, J. L. Hayward, and S. M. Henson. 2013. Mating patterns and breeding success in gulls of the *Larus glaucescens-occidentalis* complex, Protection Island, Washington, USA. *Northwestern Naturalist* 94:67-75.



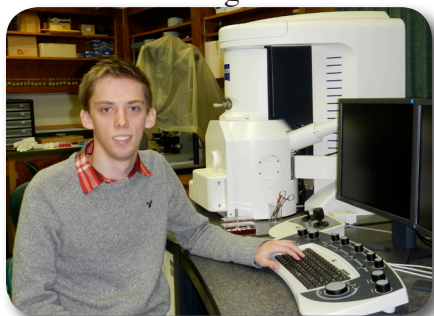
Libby Megna (MS 2012) and Andre Moncrieff on Protection Island, WA

## Teach, Learn, Grow

Teachers learn this principle early in their careers: if you want to learn a subject well, teach it. The principle applies equally to students.

A number of our students participate in the department's mission by teaching fellow students. **Christian McDonald** took Foundations of Biology his first year at AU, and accepted the position of head laboratory teaching assistant his sophomore year—a position he has held the last three years.

Christian reflects on his study and teaching at AU. “Passion for biology and the study of the human body is what led me to Andrews University. The human body is not just an arbitrary amalgamation of organic material; it is a complex system that instills awe and fascination. Being able to teach that we are ‘fearfully and wonderfully made’ (Ps 139:14) has impacted my life in a profound way, causing invaluable spiritual, academic, and professional growth.”



## Student Mission Service

Our students are preparing for careers of service—as physicians and dentists, genetic counsellors and pharmacists, field biologists and college teachers. How better to learn about service than to serve?

During the past three years, AU biology students have served as student missionaries in Peru, Tanzania, Ethiopia, Chad, and an unnamed closed country. One of those students is senior **Kristin Chung**, who is preparing for a career in medicine. Kristin spent last year at the *Hopital Adventiste de Béré* in Chad, along with fellow senior **Ross Trecartin**.

Kristin reflects on this year of mission service.

“The raw and desperate conditions catapulted me into a setting where I had no choice but to meet each obstacle with complete dedication. I was able to discover more about God and myself.” She also valued the “time-out” from the hectic pace of pre-medical studies. “It allows time to reassess life, priorities, and perspectives.”



## Calling Songs (Alumni Notes)

**Kim Aeschlimann**, DVM (BS, 2007) completed her Doctor of Veterinary Medicine degree at Texas A&M in spring, 2013. Dr. Aeschlimann has taken a full time position as an Associate Veterinarian with the San Antonio Humane Society, and reports that she has already performed over 700 surgeries!

**Stephanie Bielas**, PhD (BS, 1997) recently joined the faculty of the Department of Human Genetics, University of Michigan School of Medicine. Dr. Bielas is a neurogeneticist who works to uncover the genetic causes of specific brain disorders. Before joining the faculty at U of M, she did graduate studies and post-doc work at the University of California, San Diego.

**Christopher Campbell**, PhD (BS, 2004, MS, 2007) recently completed a PhD at the University of South Florida, with research focused on malaria. He has taken a faculty position at Florida Hospital University in Orlando, Florida. Dr. Campbell will teach courses in epidemiology, anatomy and physiology, and the US health care system.

**Devon Graham**, PhD (BS, 1983) is president of Project Amazonas (<http://www.projectamazonas.org>) in Peru. Project Amazonas is a non-sectarian NGO that has worked since 1994 with twin goals: 1) serve the needs of people of the Amazon, and 2) conserve diverse rainforest ecosystems. Dr. Graham is also Adjunct Professor at Florida International University, where he co-teaches an Honors course on the Everglades of south Florida.

**Alfred Lui**, MD (BA, 1968) was awarded the College of American Pathologists (CAP) Distinguished Service Award on October 12, 2013. "Dr. Lui was recognized for his leadership in the successful promotion of private pathology practices and his ongoing contributions to organized pathology at the local, state and national levels" (CAP News Release, Oct 14, 2013).

**Noelia Modad Zork**, MD (BS, 2003) has recently accepted a position as Assistant Professor at Columbia University Medical Center. Dr. Modad Zork earned an MD at Indiana University School of Medicine (2007), completed residency in OB/GYN at Harbor UCLA Medical Center (2007–2011), and is completing a fellowship in Maternal Fetal Medicine at Columbia.



Biology bids farewell to **Margo Coleman**, who retired this summer after 5 years of excellent service to the department as administrative assistant. Margo has relocated to New Hampshire and recently got a job at a ski resort—with free skiing as a perk!

We welcome **Mayra Robertson** as the new administrative assistant. Mayra and her family relocated to Berrien Springs from Maryland when her husband, Randall, obtained a faculty appointment in the Department of Aviation. Mayra was manager of a medical clinic for five years prior to her move to Michigan.



## Remembering Harold Heidtke (1924 – 2013)

We are saddened to report that Harold Heidtke, long-time Professor of Biology at Andrews University, passed to his rest on January 1, 2013. He was 89.

Heidtke was a committed Seventh-day Adventist from the time of his baptism at the age of 12, and he served as a church deacon most years from the ages of 16 to 83. For 32 years, he was head deacon at Pioneer Memorial Church.

Professor Heidtke dedicated his career to teaching biology at Andrews University. Although he officially retired from full time teaching in 1986, he continued to teach part time until 1997. During his 46 years of service, Heidtke taught 7,933 students—we know because he kept meticulous records of each student he taught!

A citation in Heidtke's honor, posted on the wall of the Harold E. Heidtke Amphitheater in Price Hall, summarizes well his remarkable legacy as a teacher. It reads in part:

*Heidtke is perhaps best known to biology alumni for the 7:30 a.m. Foundations of Biology course he taught five days a week for 35 years. He built the course into one of the most in-depth, comprehensive general biology courses taught anywhere. Scores of dentists, physicians, teachers, college and university professors and others owe their fundamental understanding of biology to Heidtke's teaching.*

*When asked about his teaching at Andrews University, Heidtke said, "If I were to tell you what stands out as a 'high point' during my years at Andrews I would say this: the privilege of teaching several thousand young people—and some older ones!—and then seeing them become successful and dedicated professionals. The realization that perhaps I made a small contribution to their success—that for me is a 'high.'"*

*Professor Heidtke's example of faithful, humble service motivated those he served. His inquisitive habit of the mind, self-discipline, and commitment to excellence in academics inspired both students and colleagues. His faith in God as creator and saviour were an encouragement to all.*

"Instruct the wise and they will be wiser still; teach the righteous and they will add to their learning". – Prov 9:9

