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Biology Department

Winter 2010

Lifelines Winter 2010

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Lifelines



Biology/Allied Health Department

Southern Connections Research

Each fall, the various sections of the freshman course, Southern Connections, have a major project to do. In order to let beginning biology majors experience scientific research, one section did a small research project on plant development last fall.

In the summer of 2009 tomato plants in several local gardens died of a mysterious “disease.” After getting a good start, the growing points of plants began to shrivel and the plants died a few weeks later without producing any fruit. The individual gardeners were baffled by this problem until they compared notes and discovered that they each had used manure from the same horse farm. It was later learned that the herbicide Aminopyralid [trade name ForeFront] had been used in the spring of 2009 on the pasture where the horses had been feeding.

The objective of the experiment was to determine the cause of the abnormal growth. The 17 members of the class raised 104 tomato plants and made observations of their growth over an 11-week experimental period.

The results conclusively showed that samples of manure obtained in the summer of 2009 resulted in abnormal apical buds. Plants grown in garden soil with no manure added and plants grown in manure that had been collected during the winter of 2008-'09 showed normal development.

After putting in the work and obtaining initial results, we decided to continue the project in an attempt to get it published. When second semester started, the professor asked the former class members for volunteers who would like to continue working. Nine students responded and began to meet once a week to write and edit.

The students decided to divide into three groups and write the results in three different



Carlos Romero and Anna Wijatyk work on the tomato research project.

formats. One group planned and prepared a poster which they presented at the poster session on Campus Research Day, April 20. A second group wrote a paper that was submitted to Southern's Journal of Interdisciplinary Undergraduate Research. The last group prepared an oral presentation that was planned for the Tennessee Academy of Science meetings. Unfortunately, scheduling conflicts made it impossible for our students to participate in the spring TAS meeting so that paper was presented at the E.O. Grundset lecture on campus April 15.

“Doing this simple research project and seeing the students ‘getting into science’ was a great way to start off their first school year,” says Dr. David Ekkens, class professor. “Getting it actually published will be the icing on the cake. We were hoping that we could get it published in one venue. The possibility of getting it accepted elsewhere will be just that much better. I was really proud of the way the students did the work of writing and editing. For them, it was very gratifying to see their work accepted.”



SOUTHERN
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Power for Mind & Soul

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Renita Klischies, M.S.
Rick Norskov, M.D.
Lee Spencer, Ph.D.
Keith Snyder, Ph.D.
Debbie Strack, Office Mgr.
Neville Trimm, Jr., Ph.D.

Another Retirement

Dr. David Ekkens arrived on the campus of Southern Adventist University (then Southern College of Seventh-Day Adventists) with his wife Sharon and their younger son, Lauren, in September, 1990 (their two older children Tom and Melinda were already adults). Dave initially began his teaching career at Cedar Lake Academy in Michigan while he was working on his Masters degree in Biology. Dave then moved to southern California to do research on kissing bug behavior and earned his Ph.D. in Biology at Loma Linda University in 1974. Upon earning his degree, Dave spent about a year teaching at Oakwood College (now University) in Alabama. Resisting the urge to settle down, he next taught at Southwestern Adventist College (now University) in Texas for two years prior to moving to Africa and teaching four years in Nigeria and six years in Kenya. Arriving back stateside, Dave worked on a post-doc



at Andrews University in Michigan studying cricket phonotaxis. After about a year of research, the call to teach again took Dave to Garden State Academy and then to Kettering College of Medical Arts before he applied for the open position in the Biology/Allied Health Department of Southern College.

During his tenure at Southern, Dave has taught General Biology,

Anatomy & Physiology, Issues in Natural Science & Religion, Entomology, Genetics, Vertebrate Natural History, Mammalogy, Flowering Plants & Ferns, Smoky Mountain Flora, & Canadian Field Ecology.

Some of Dave's most memorable experiences while teaching at Southern were the field trips that he's been able to take students on. These have included Tropical Biology trips to Indonesia, Field Ecology canoe trips to Ontario, Canada, and Vertebrate Natural History trips to Okefenokee and Florida.

Dr. Ekkens is planning on retiring from full-time teaching following the 2009-2010 school year. Dave's future plans are to move with Sharon somewhere on the west coast so they can be near their children and grandchildren, and to keep busy with volunteer work.

Tragic Loss of New Professor



Dr. Richard (Rick) Seidel died on Sabbath, January 16, 2010. He is survived by his wife, Irma and son, Hayden, parents, David and Lynda

Seidel, of Kettering, Ohio, and sister, Lesley Seidel-Beckett. He graduated from Spring Valley Academy in Ohio and received a degree in Biology from Southern Adventist University in 1998. He earned his M.S. in Biology while on Guam as a teacher and a PhD in Zoology from Miami University in Oxford, Ohio, in August 2009 after returning to Southern to teach Biology.

Dr. Berg, his mentor while at Miami, states, "It was extremely gratifying to watch him develop into a scientist with a passion for understanding the natural world. He already was a very good teacher when he came to us."

When Dr. Seidel guest lectured for his interview at Southern

in March of 2009, many student evaluations were extremely positive. Comments like, "Hire him now!" were typical. This past fall, he became a very popular professor among Southern students with his energy and enthusiasm for the world of biology. At the end of the semester, student class evaluations revealed he had earned the highest scores ever of any "first year" teacher in the department.

He will be greatly missed. The students and faculty look forward to that great biology reunion in heaven. Donations may be sent to: Hayden Seidel Education Fund, c/o The Grandview Foundation, 405 W. Grand Ave., Dayton, Ohio 45405.

Allied Health Advisor Moves to New Position

Mrs. Renita Klischies joined the Biology/Allied Health Department June 1, 2003 as the half time Allied Health advisor. In this role, Renita advised students about the requirements for their chosen professional school and coordinated student interaction with recruiters from Loma Linda University and Andrews University. Her dedication has been noticed by both



students and parents; one father commented about her dedication when he was able to talk with her on the phone at 11:00 pm. Joey Giampa, Health Science major, said, "Renita is a caring & motivated individual whose student-centered commitment to success is second to none. She has accumulated countless hours above and beyond the call of duty." During her seven years, she

has been awarded the 2006-2007 Adviser of the Year Award and the 2009 President's Award for Commitment to Student Success.

June 2010, Renita will be working full time as the First Year & Retention Coordinator for Southern. In this role, she will help students adjust to university life and help them work through the difficulties that they may experience during that year. We will miss Renita's cheerful presence at staff meetings but know that she will be a tremendous asset to the program that she is helping to develop for the freshmen.



Alumni News Corner

Amanda attended Southern from 2002-2006, majoring in biology and minoring in religion. During her junior year, she served as a student missionary to India. She was a school teacher at two different orphanages, one in Tamil Nadu and the other outside of Calcutta in West Bengal.

After graduating in May 2006, Amanda studied French at Collonges-sous-Saleve in France, and enjoyed being able to travel to ten countries in nine months. Upon returning to the U.S., she entered graduate school at Emory University's Rollins School of Public Health in Atlanta. She went to school full-time and also worked in a bio-safety level 2 (BSL) research laboratory at the Centers for Disease Control and Prevention. The lab, located within the Division of Parasitic Diseases/National Center for Zoonotic, Vector-Borne and Enteric Diseases/Coordinating Center for Infectious Diseases, focuses mainly on

researching the diseases cysticercosis, taeniasis, and schistosomiasis. Amanda had the opportunity to learn various assays and developed an ELISA (enzyme-linked immunosorbent assay) for detecting the diagnostic antigen T24 for cysticercosis. She also assisted a senior researcher in developing two cutting-edge assays: the multi-antigen print assay (MAPIA) and the magnetic immunochromatographic test (MICT) for detecting cysticercosis & taeniasis cases.

In May 2009, Amanda completed her Master of Public Health degree with a major in Global Health and concentration in Community Health and Development. She now works as an emergency preparedness coordinator for the Greater Monadnock Public Health Network, one of 15 public health networks in New Hampshire. She oversees public health preparedness and response activities for 33 towns with a combined population of over 105,000 people. In January 2010, she published for the first time as a co-author on a paper about the MAPIA test, in the journal *Clinical and Vaccine Immunology*. She is active in her local church, as a pianist and substitute Sabbath School teacher for the juniors class.

A strong foundation in biology, especially in microbiology and infectious diseases, prepared Amanda for graduate school and her current job as a public health official. She encourages students to challenge themselves academically and stick with the tougher classes, because it will pay off in the end. She also encourages students to take the time to grow spiritually while attending Southern. Performing academically is important, but growing spiritually is the most important experience a student can have. Amanda chose to attend Southern because of the spirituality on campus. She especially appreciated that the biology and chemistry professors had worship before each class. The fact that most of the biology professors had been missionaries influenced her to serve as a student missionary in India. One of her favorite memories is going to Friday night vespers. Her message to current students is: "Take advantage of all the opportunities to grow at Southern--both spiritually and academically--and you will be well-prepared to face the world!"

Allied Health Club Involved In Service

The Allied Health Club (AHC) is the umbrella organization for a number of health related majors including physical therapy, occupational therapy, clinical laboratory science, nutrition/dietetics, etc. The AHC is dedicated to providing its thirty-six members with the opportunity to get involved in community service, knowing that most graduate programs require a certain amount of extracurricular activities. This year we have been involved with a local non-profit organization, the Samaritan Center, on two separate occasions to aid our community; assistance with a children's toy room and food collection/donation during a Christian gathering. We also participated in a health fair in downtown Chattanooga where students helped to run carnival type booths for local children. In October of 2009, AHC raised \$150 during an annual flea market that takes place in the parking lots of Talge and Mabel Wood Halls. We donated all of the money from our October fund raiser to an on-campus organization called BluSauce. BluSauce is associated with Southern's campus

ministries department which seeks to aid single parent students, as well as low income families, in any way that it can. Our proceeds were divided up into four gift cards and we requested that the families in greatest need receive the gift cards.

Aside from community service, AHC seeks to provide its mem-

bers with a friendly environment where they can find recreation and a source of relaxation from the pressures of college life. As such, we have hosted a white-water rafting

trip at the beginning of the school year, a welcome back party, vespers, and a convocation. Vespers and convocations planned by the AHC usually include a home-style setting where students can feel at ease and we try to include a meal or snacks of some sort. We feel that a strong spiri-



September 20, 2009, Allied Health Club and friends partner with outdoor leadership to go white water rafting on the Ocoee River.

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Donut Challenge game at the fall party.

**Biology
Graduates
09-10**



Bryan Bridges
Biology



Nick Clough
Biology



Tania Fuentes
Biology



Tisha Gabriel
Biology



Ruthie Gulley
Biomedical



Jeremy Guth
Biology



Norshae Harding
Biomedical



Erica Hughes
Biomedical



Janessa James
Biomedical



Alexis Ludi
Biology



Jacob Mayor
Biology



AJ Pastor
Biomedical



Shannon Russello
Biology



Ryan Senecal
Biology



Heidi Toppenberg
Biology



Ashley Vallieres
Biology



Jeremy Weaver
Biology



Mandy Wilson
Biology

*No picture available:
Chelsea Foster, Biology*

*No pictures available:
Canique Brown, Robin Knight - AS Occupational Therapy
Alexandra Knight - AS Dental Hygiene
Nicholas Eller, Jose Escobar, Jin Kang, Brandon Mott - AS Physical Therapy
Jennica Melendez - AS Nutrition/Dietetics
Nicole Smith, Shanae Smith, Jenissa Vazquez & Susana Lee Wong - Clinical Lab Science*

**Allied
Health
Graduates
09-10**



Richard Baskin
AS Physical Therapy



Mechele Clough
AS Physical Therapy



Nicole Domaschuk
AS Physical Therapy



Valerie Dry
AS Speech Pathology



Elise Harboldt
AS Nutrition/Dietetics



Emily Milliner
AS Speech Pathology



Sarah Milliner
AS Physical Therapy



Courtney Pietsak
AS Physical Therapy



Silvia Preza
AS Physical Therapy



Alex Wade
AS Physical Therapy

Snapshots



Alethia Lewis & Bryan Bridges pipetting cells.



Saki Lopez using a multi-channel pipettor.



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