



# the Periodical

**Southern Adventist University Chemistry Department**



## Department News

### Hamstra accepts the Chair position of the Department

**B**rent Hamstra has assumed the role of chairmanship in the Chemistry Department at Southern Adventist University beginning with the 2014-15 School year, following Rhonda Scott's very successful leadership.

Brent began teaching at Southern Adventist University in 1999, having completed an undergraduate degree in chemistry from Andrews University, a PhD in inorganic chemistry from University of Michigan (Ann Arbor), and a post-doc at Notre Dame where he continued research on models for active sites of vanadium-containing enzymes. Brent has taught an extensive repertoire of courses

including Chemistry of Everyday Life, General Chemistry, Organic Chemistry, majors Inorganic Chemistry, Chemistry Seminar, and Introduction to Research in Chemistry.

Brent is married to Emily (SAU 2003), who has experience as a forensic chemist, and they have two children Ben (4) and Molly (2). Brent is admired by his colleagues and students for his calm confidence, quiet optimism, and good sense of humor. When asked what is his vision for the Chemistry Department, Brent replied "To maintain the longstanding good reputation of the Department, to find areas we need to grow in and

develop, and continue to meet current and future student needs."

*By Mitch Menzmer*



### Chemistry Professor Publishing

Herman H. Odens, Associate Professor of Chemistry, and his colleagues at Wake Forest University School of Medicine published a paper titled Inhibition of the Thioesterase Activity of Human Fatty Acid Synthase by 1,4- and

9,10-Diones in the Chemical and Pharmaceutical Bulletin of Japan in September of 2014, vol. 62(9), pages 933-936.

*By Brent Hamstra*



# Chair News

Since I began serving as chair of the Chemistry Department in June, many people have asked me, “How do you like your new job?” or “How is your new job going?” And the answers are that I like it so far and that I think it’s going well so far.

The more interesting question people ask is, “What’s different about your job now that you’re the chair?” And my answer to that question is that there’s a lot less predictability about what I’ll be doing on any given day, because unanticipated things happen. That’s not always a bad thing—sometimes surprises are good. Some things aren’t surprising, though.

We still have great students. Our total number of chemistry majors has risen a bit this fall, with 86 as of the beginning of the semester. It is good to have that increase in a year when the overall university student

enrollment has decreased. We have over 20 first-year chemistry majors this fall and it looks like this is one of the academically strongest incoming classes we’ve seen.

We still have a great place to learn. Our newly-installed LC-MS should be helpful in furthering the progress of our growing research program, and I think we’ll find ways for it to contribute to other parts of the curriculum as well.

We still have a great faculty. This is the main reason that being the chair is as likeable as it is so far and that it’s going as well as it is. Working with people who enjoy what they’re doing and are committed to doing it well makes being the chair much easier than it would be otherwise.

I’ll close this note with the three points for success that I’ve shared with the Chemistry Department

faculty and with our students.

- Pursue your passion. Find time to do the things you love, and find a job that you love.
- Work together. We do better when we help others and when we accept the help we need.
- Be better. No matter how well we’re doing, there’s always room for improvement.

I hope everything is going well for all of you.



*Brent Hamstra, Ph.D.*

## Student Missionaries

### Difficulties. Teaching. Unconditional Love.

Last year I was away in the far Islands of Micronesia, Pohnpei, and boy was it a learning experience. During the week, I taught forty rambunctious little eighth-graders Math, Science, Bible, and Physical Education. On Sabbath I taught primary school. Those kids have taught me the meaning of unconditional love. Being a teacher has also given me an abundant appreciation for all of my teachers.

As I entered the class one morning I saw my entire class in full chaos. I said nothing and simply sat at my stool in front of the class. It was like time had frozen and peace had entered my soul. I had come to the realization that I loved each and every one of my students. Their diverse characters always made class a new experience. As I sat there the class slowly started to

become still and they stared at me waiting for class to begin. I know that sounds weird but it’s true. It was through their chaos that I realized how much they meant to me. My love for them reminded me of Christ’s love for us. Christ is there with us through thick and thin and in the end He still loves us.

One Sabbath morning I waited quietly for class to begin. I sat awkwardly in front of small Pohnpeian children waiting for someone to come teach the class... but no one came. After waiting a few more minutes I realized that no one was coming and it was up to me to teach the class or they would not have class. I stood up and asked if they knew how to sing ‘Jesus Loves the Little Children.’ No one answered. I was scared they didn’t know any

English. So I began to sing the song and halfway through serenading them they joined in. After song service I told them a small story about Jesus and ended with a word of prayer. I would have never thought I would be the one teaching Sabbath school, but I am now grateful to have had the opportunity to do so. Challenging situations reveal abilities one never knew they had.







Being a teacher is not an easy job. With this being said I would like to thank each of my professors. Thank you for answering every single question we ask. Thank you for encouraging us and helping us reach our goals in life.

*By Denise Pleytez*

## Student Missionary in the Philippines

I died. Well, not literally. It was in the script. You see, I was playing a little girl called Tamar in a multipart Bible story rendition we had written for a children's ministry. She was the daughter of Jairus, the daughter of a prominent religious figure. She got sick, and died, but if you remember your Bible stories, Jesus came and healed her. In our play, Tamar and her friends followed Jesus observing the miracles that He performed. Kids for Christ, as we called our program, was a great opportunity to teach children stories from the Bible, Bible verses, object lessons (which I was in charge of), and most importantly show them that church was a fun and safe place full of people who care about them. This was one of the many opportunities I was given to serve while being a student missionary.

I spent 8 ½ months in the Philippines as a student missionary. It was hard. I'm not going to lie. I faced great challenges this year, many of them personal challenges. But God brought me through it all.



He was also with me in the positive times as well. I was able to be a part of providing medical care to needy communities. I was given the wonderful opportunity to preach from the pulpit the great hope that we have. I was able to mentor children, encouraging kind and loving behavior. I have hundreds of stories from my trip (Please ask me about them!) but what I learned overall is most important and is what I want to share with you...

About two-and-a-half years ago when I was going to junior college in Texas I started to pray this prayer: "God, give me your heart for this lost world, and I will go wherever You send me." I didn't know if that meant a different school or another city or another country...but I wanted to have the Heart of God and do His will. That prayer has led me many places geographically and spiritually. I had NO idea what I would have in store for the next year of my life when I signed up to be an SM. I did a lot of things, exciting things, but I got to see more clearly our place in the great controversy between God and Satan.

To be honest, I guess you could say I really did die. I died to self. I submitted my will to God. Following God is a choice I do not and will never regret. I laid down my pride and selfish ambitions and said, "God, lead my life and I will

trust You." Probably my favorite Christian artist is Steven Curtis Chapman, and a couple of years ago he came out with a new song titled "Do Everything." I love this song because it embodies and gives a modern day description of Colossians 3:23. A line that sticks out to me is "Maybe you're sitting in math class/Or maybe on a mission in the Congo." You don't have to be in another country to serve God. You can serve him in your chemistry class. God took me halfway around the world to show me ways I could be a missionary right here. Each day I try in my human ways to point people's eyes toward Jesus. I want Jesus to come back soon, so won't you help me? Be a "student" missionary right here, right now or if God calls you, go serve abroad. Either way, give your life to God. When you ask me how my mission trip was, the best answer I can give is I'm still on it.

*By Megan Holladay*



# Department Happenings

## Chemistry Club News

For decades now, Chemistry Club has been an active club at Southern Adventist University. The club promotes fellowship between students interested in chemistry and related fields. In addition, the club creates an atmosphere encouraging students and faculty to get to know one another through their common interest in chemistry.

At the beginning of the school year, Chemistry Club participated in SA's Organizational Showcase event to recruit anyone who is passionate about chemistry. For this event, Emelyn Magtanong and Emily Moses, club president and vice-president, decided to make colorful slime from borax solutions to show the playful side of chemistry. During the event, students and faculty were intrigued by the gooey slime, and stopped by to hear about the activities Chemistry Club has to offer. Even the president of Southern Adventist University, Dr. Bietz, stopped by to hold some slime and learn what it was made of! At the end of the showcase, over 60 students signed up to join, including students majoring in biophysics, computer science, music, and many more. This diverse group of students has prompted great conversation and allowed the world of chemistry to be spread in places other than the third floor of Hickman.

The first major event of this year was the annual bonfire vespers held at the Schillings' home. Students always look forward to the delicious food and enriching spiritual atmosphere offered at the vespers. The event was moved inside due to Tennessee's stormy weather, but attendance was still high, despite the pouring rain. People were spread out all over the Schillings' living room floor, and some even went downstairs for extra seating.

After supper, club pastor Megan Holladay, delivered a short, inspirational message relating God and chemistry. She reminded everyone that even when God appears to us in different ways, he is the same loving God who created us. Following the service, students and faculty continued to mingle while enjoying cookies and Dr. Schilling's homemade ice cream. This was a great way for club members, friends, and faculty to welcome the Sabbath together.

National Chemistry Week (Oct. 19-25) was a fantastic opportunity to bring chemistry alive to students through visual learning. For the whole week students were submerged into the game "Candy Land" with life-sized board pieces all around the corridors of the Chemistry Department. We spent time setting up locations where descriptions of certain candies (i.e. 'rock candy') were on the walls. Not only were students able to see how chemistry is involved in everyday life through candy, but they were able to connect chemistry to something all college students love: sugar!

The chemistry in candy was a project for us chemistry majors to invite others into our world of science. Since every major requires some type of science requirement, every student on campus has to be in the science building at some point or other, allowing us to expand their chemistry world to more than just electrons and titrations. As part of our ensemble, we placed a large periodic table filled with different candy types that were substituted for the elements we learn about in class. We saw how the elements were components that make up molecules used in candies.

Every day of the week we

focused on a specific candy and gave out candy so that students were inclined to learn as they tasted the delicious components they learned about. Thursday was a special day because it was Mole Day (10/23). Whether you know it as Avogadro's absolute number that represents the quantity of one mole, or just as the rodent that makes holes in your yard, we gathered together to celebrate an important concept in chemistry.

Students enjoyed seeing the decorations and together agreed that they learned a lot about chemistry. This is our mission as part of the Chemistry Club, not only to come together as a group of students who share a love for science but to show others how we see life, in the eyes of chemistry.

Towards the holiday season, future events include: pumpkin carving, community service activities, Christmas gift exchanges, and a joint Hickman Christmas party with other departments in the building.

As the school year continues, Chemistry Club officers and sponsors are excited to plan more events for the students, and are committed to share insights on the fascinating world of chemistry.

*By Emelyn Magtanong,  
Emily Moses & Jessica Davis*

**2014 - 2015**

**Chemistry Club Officers:**

**President - Emelyn Magtanong**

**Vice President - Emily Moses**

**Secretary - Angela Kanna**

**Treasurer - Brad Beisiegel**

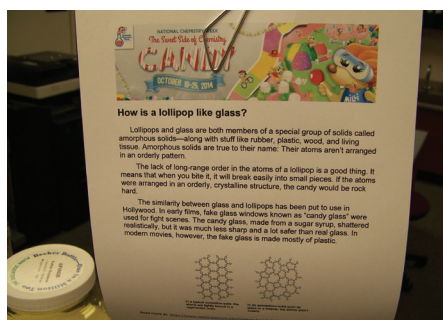
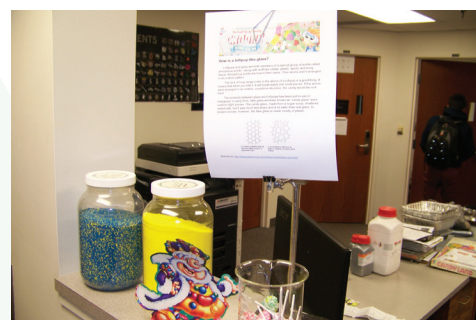
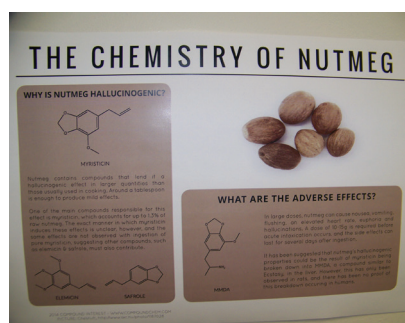
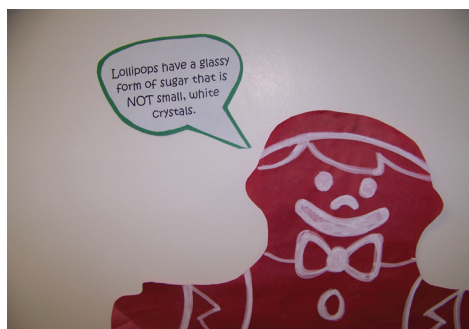
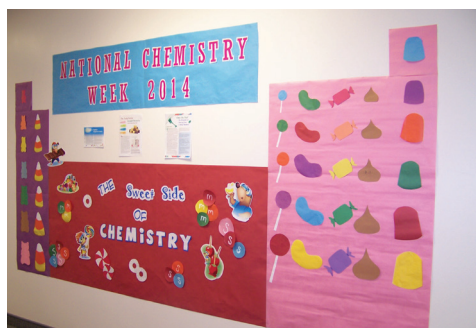
**Pastor - Megan Holladay**

**Sergeant at Arms - Skyler Williams**

**Public Relations - Jessica Davis**



# Candyland at the Chemistry Department





# Alumni Spotlight

## Jessica Kisunzu, Ph. D.

**Q:** When did you graduate from Southern Adventist University?

**A:** I graduated from Southern in 2008 with a B.S. in chemistry.

**Q:** Where did you go to school after Southern?

**A:** I studied at the University of California, Berkeley doctoral program, which I completed this year.

**Q:** Why did you choose to go there, and when did you graduate?

**A:** Near the end of my time at SAU, I became more interested in teaching and the opportunity to do organic chemistry research. Berkeley has a great program and I chose to go there because of a particular advisor, his group, and their work in complex natural product synthesis. I graduated in 2014.

**Q:** What are some challenges?

**A:** Things fail in research more than they work and graduate school is often very intellectually and emotionally draining. One

major challenge was learning how to balance the narrow focus with the big picture and continue forward even when faced with many negative or unexpected results.

**Q:** What are some rewards?

**A:** Making tangible progress on my projects was exciting, but the most rewarding experiences were those that involved teaching and mentoring. I was able to teach organic chemistry, have an undergraduate work with me for 2 years, and do community outreach. In these ways and others, it became more evident to me that chemistry is not only fascinating and fun to study, but it's also an avenue through which people can grow and learn personally.

**Q:** What are you doing today?

**A:** I just started work as a postdoctoral researcher at the Swiss Federal Institute of Technology (ETH) in Zürich, Switzerland.

**Q:** Tell us about your family.

**A:** My parents and brother are on opposite sides of the States for work and school, but we got to spend some time all together before I moved abroad, which was fun.

**Q:** Anything else you would like to share?

**A:** I am very thankful to have been part of this department. I'm excited to see how it has grown in the years since I graduated and to see the achievements of fellow alumni.

*Interview by Dennisse R. Blood*



*Jessica with brother Phillip, parents Cheryl and Conrad Kisunzu*

## Chemistry Graduates December 2014 and Their Plans for the Future



**Christen Case**  
B.S. Chemistry /  
B.A. Mathematics  
Graduate School



**Jonathan Sundin**  
B.S. Chemistry,  
Biochemistry Emphasis  
English/Science Teacher  
in Korea  
Medical School



**Phillip Van Arsdale**  
B.A. Chemistry  
LLU, School of Medicine

*We want to hear what you have been up to since you graduated. If you or someone you know would like to be in the Alumni Spotlight, please email us at:*

[chemistry@southern.edu](mailto:chemistry@southern.edu)

# Biblical Applications

## #Pray4Drew

Receiving a call that my recently graduated and engaged son was fighting for his life after a freak bicycle accident put the power of prayer into high gear for me. Ten excruciating hours separated me from his side, and his dad was 6 hours away in the opposite direction. But God anticipated our prayers, and provided in miraculous ways that have sealed my belief in and dependence on prayer.

By the time I arrived at the Trauma ICU at Erlanger in Chattanooga I started recognizing the first in an on-going sequence of miracles. Although Drew was riding alone at the time of his accident, angels had guided another group of cyclists to change their usual route so that they would find him within minutes of Drew's accident. They called 911 and made sure that Drew could breathe and had a heartbeat. God put these men in the right place at the right time and I credit them with saving Drew's life.

We found out that people had been praying for Drew even before his accident. Forest Lake SDA Church has a Prayer Quilt ministry. Ladies create beautiful quilts and hang them on a wall for people to pray over, for whomever might be the recipient. When our dear friend and pastor decided to pick up a quilt for Drew it was clear that many people had already been praying for him. The quilt was made with prints of bicycles and travel stamps: two things that relate so well to Drew. Friends drove from Orlando to deliver the quilt directly to Drew.

Seeing my son struggling for his life while being supported on a ventilator was indescribably painful. The trauma unit doctor's report didn't give us a glimmer of hope for Drew's recovery. But the TICU chaplain was there to point us to seeking the opinion of the

neurologist. We knew it might be hard to get time with the neurologist in an extremely busy trauma unit, and we decided to request an appointment. But first we were going to pray and dedicate Drew to God through anointing. God provided for our comfort through multiple friends who circled us with their love and support, both in that room and from a distance. In that time of prayer God answered in a mighty way. When we opened our eyes from the anointing prayer, the neurologist was in Drew's room. We had not even gotten around to requesting the appointment! Before we asked, he just appeared. He wanted to give us his report on Drew's condition. He explained the severity of Drew's injury and told us it would be a long pathway to healing, but there was hope for Drew to recover.

The power of prayer was so evident through the Facebook page that Drew's best friend set up. Living in Uruguay and feeling completely helpless, Martin created a page where people signed up to pray at a particular 5-minute slot of each day. Within days every slot was full, and at any time of day or night when I felt discouraged I could look on that chart and see I wasn't alone in my prayers. Over 1,800 Facebook friends have supported

us with notes of encouragement, Bible verses, songs, and reminders of God's presence.

There are so many evidences of miracles in Drew's story that couldn't have happened without prayer, and we are not at the end! After 3 weeks in a coma, an amazingly smooth transition to Shepherd Center (one of the best brain injury hospitals in the US), and now in an outpatient program, we continue to see God's hand. Drew has a positive and courageous attitude and works hard at whatever the therapists ask him to do. Helping Drew reconnect his memory is very interesting. Recently we drove him to Southern Adventist University. He wanted to spend time with his brother Dillan, but also asked if he could see some of his professors. Drew was glad it was Sabbath so they could not give him a pop quiz. Visiting SAU helped Drew so much towards a new level of recovery.

It has taken a team of praying people to help Drew recover: family, fiancée, friends, health caregivers, and prayer warriors who have never even known Drew. Praying for Drew has helped renew the faith of many involved and we have that "miracle" that I requested on the first night after I received that call.

*By La Ronda Forsey*





Power for Mind & Soul

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Bruce Schilling, Ph.D.  
Rhonda Scott, Ph.D.  
Dennisse R. Blood, Office Mgr.

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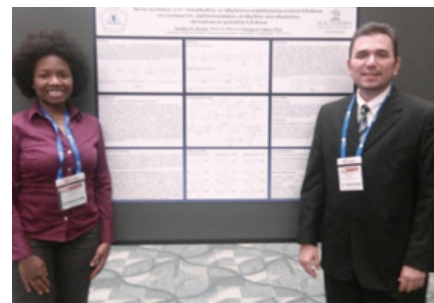
## Undergraduate Research Pushing the Boundaries of Discovery

On March 19, 2014, Dr. Herman H. Odens and Candace N. Olusola presented a poster for their anti-tuberculosis project in the 247th American Chemical Society (ACS) National Meeting in Dallas, TX titled Novel synthesis of 6,7-bis(alkylthio- or alkylamino-substituted)quinoline-5,8-dione via nucleophilic addition/oxidation of alkylthio and alkylamino derivatives to quinoline-5,8-dione. Candace also presented the same poster during Andrews Research Conference: Early Career Researchers in Science, Technology, Engineering, and Mathematics (STEM) on May 7-11, 2014 in Berrien Springs, MI, and during Campus Research Symposium at Southern Adventist University, Collegedale, TN on April 15, 2014 along with Trevor S. Silva

whom was a key contributor to the project. Three other posters were presented during Campus Research Symposium. David S. J. Chang presented a poster titled Innovative Synthesis of Diltiazem/Clentiazem Analogs, for his work on the development of a cardiovascular disease drug analog. Jeena D. Foronda presented her work on A New Methodology for the Synthesis of 2-Alkyl-5,6-bis(alkylthio)benzo[d]thiazole-4,7-diones, a new cancer research project, and Leanne M. Minimo presented her poster on The Antibacterial Potential of Phenazine Derivatives, an anti-infective research project. In total, 5 students presented their work in posters and 4 presented their work in oral presentations. In September of 2014, the

chemistry department purchased an Agilent G1946D with 1100 HPLC Series liquid chromatograph mass spectrometer (LC-MS) from SpectraLabs Scientific Inc., Ontario, Canada.

*By Herman H. Odens*



247th American Chemical Society (ACS) National Meeting in Dallas, TX, March 19, 2014