



the Periodical

Southern Adventist University Chemistry Department



Rhonda Scott Retires from the Chemistry Department

Rhonda Scott retired from her position as professor of chemistry at the end of the Fall 2021 semester, following 24.5 years of distinguished service to the students of Southern Adventist University. Professor Scott joined the Chemistry Department in 1997 from the University of Wisconsin-River Falls and previously taught at La Sierra University in California. For her first 17 years at Southern, she served as chair of the Chemistry Department.

During Scott's tenure as department chair, she developed the popular degree B.S. Chemistry, Biochemistry Emphasis and oversaw the development of the department's curriculum into one that aligns with American Chemical Society (ACS) standards for program approval.

During her time as department chair, the number of students majoring in chemistry grew from approximately 20 to as many as 93 at its peak in 2012, and the



number of faculty members in the department grew from three to seven, representing each of the major disciplines of chemistry (analytical, inorganic, organic, physical, and biochemistry).

As an educator, she developed the Survey of Health Chemistry course for nursing and allied health majors and the Chemistry of Everyday Life course for students fulfilling general education program requirements. Her challenging and rigorous biochemistry courses provided hundreds of students with the

knowledge they needed for admission to medical, dental, and pharmacy school and to graduate programs in chemistry, biochemistry, and related fields. Students in her biochemistry courses routinely scored above national averages on the ACS exam in biochemistry.

Outside the classroom, Scott provided advice, support, and mentorship to many students, both formally as an academic adviser and informally as a longtime Chemistry Club sponsor. She also developed relationships with students through the departmental extracurricular activities. She regularly opened her home to host Chemistry Club vespers and social events and invited students in her classes to meals at her home, facilitating the development of close relationships between students and faculty that many past and present students describe as

Continued on page 6

From the Department Chair

In the December 1, 1891, edition of the Review and Herald, Ellen White wrote that “A knowledge of science of all kinds is power, and it is in the purpose of God that advanced science shall be taught in our schools as a preparation for the work that is to precede the closing scenes of earth’s history.” In the rest of the article, she emphasized Jesus’ work of bringing a knowledge of the gospel to the world and the importance of deeper study and knowledge of the Bible.

Ellen White not only promoted the teaching of “advanced science,” but she also regarded it as part of God’s purpose in preparing the church for its end-time work. I think she tied the study of science to the work of the church for two main reasons. The first of these has to do with the training of those who engage in the ministry of healing. Typically, we think of doctors, dentists, and nurses in this context, but I think this also includes other professionals such as pharmacists, physical

therapists, medical laboratory scientists, and the research scientists involved in synthesizing, analyzing, and developing therapeutic drugs. People who have an advanced understanding of science are better equipped to provide the highest quality of service to those who need physical healing. Just as the physical healing Christ delivered while He was on Earth often provided a gateway to spiritual wholeness, our healthcare providers today may impact the spiritual health of those they serve when they apply scientific knowledge in providing physical healing.

The second, broader reason involves the sound thinking and reasoning that Christians must exercise in whatever they do. The study of advanced science requires and develops diligence and discipline in thinking that benefits those who engage in this study. It provides a rich set of intellectual tools for determining facts and evaluating claims. In a world increasingly plagued with misinformation, disinformation, and



Brent Hamstra

propaganda, those with the tools to discern truth from falsehood in the physical world should be better equipped to follow the Holy Spirit’s leading in discerning truth from lies in the spiritual world and to help others become more discerning as they seek to know and understand God better.

I hope that each of you will pray for us as we teach advanced science and will thoughtfully consider partnering with us in this work by taking advantage of your opportunities to develop and apply sound reasoning skills in leading others to deeper scientific and Biblical understanding.

Crystal Zhang Glassford Joins the Chemistry Department

In January, the Chemistry Department welcomed Professor Crystal Zhang Glassford as its newest faculty member. She earned her bachelor’s degree in life sciences from Peking University and then attended the University of Melbourne, where she completed her PhD in Biochemistry and Molecular Biology. She was a postdoctoral fellow at The University of Melbourne and



Professor Crystal Glassford likes to travel with her husband, Daniel, and their son, Noah.

then held a second postdoctoral position at Johns Hopkins University, immediately prior to joining the Chemistry Department. Her doctoral and postdoctoral research focused on proteins and mRNA molecules involved in neurodegenerative disease processes.

During the Winter 2022 semester, Glassford taught Bio-

Continued on page 4

Alumni Spotlight

Dequina Nicholas, PhD

What years did you attend Southern?

I attended Southern Adventist University from the summer of 2006 until the spring of 2009.

When did you graduate?

I graduated from Southern on May 3, 2009.

What attracted you to this university?

On a visit to the campus while my older brother was attending Southern, the Gym-Masters were performing. After seeing the Gym-Masters, I just knew that I had to be a part of this, but oddly enough, I wasn't an acrobat or gymnast. The coach at the time told me to learn how to do a back flip and to try out when I got to Southern. I was sold and chose Southern so that I could try out for the Gym-Masters. It's a miracle that it worked out. God knew how to get me where I was supposed to be.

Why did you choose to study chemistry?

I had developed an intense interest in forensic science in high school. Chemistry seemed to be the right major to get me into a career in forensic science.

What is your favorite memory from your experience at Southern?

I am very fond of my experience at Southern. I made lifelong friends and remember being (1) extremely happy, (2) excessively busy, and (3) exceedingly challenged. Some of my best memories are of the people I connected with. My friends took me outside of my comfort zone. I went rock



Dequina, Nairi & Ricardo Alvarado

climbing, cliff jumping, and caving. I took more than 20 credit hours a semester, so of course I was also busy. I remember enjoying hours with my calculus study buddies in the library, sharing Argentinian Mate (our caffeine boost). Lastly, I remember how challenging some of my major courses were. On one Physical Chemistry test, I blanked and left an entire 20-point section unanswered. That test score was so humbling. Amidst the stress of school and my schedule, most importantly I remember feeling supported and loved by both my friends and my professors.

Where was your favorite place to study?

This is a hard one to answer. I think it would depend on what class I was studying for and whether we had a study group or not. My go-to places for group study were the study rooms in the library, the grassy area on the far side of the men's dorm, and patio area near the old student center/KR's Place. On my own, I would study in my bed.

What was your favorite class?

Hands down it was Organic Chemistry, but not because I love organic chemistry. The professor I had would tell an exciting story about his life at the beginning of class each day. I really looked forward to these stories and his "life lessons." He broke down difficult concepts and really helped all of the students build good study habits for a very difficult subject. He told us that when he took Organic Chemistry, he was a C student, so he knew where we would struggle. He made class enjoyable, and I loved being able to appreciate and do well in a topic and class that normally I would not describe as my favorite. What I learned in the class really stuck, and I even use some of that knowledge in my research now.

What school did you attend immediately after Southern, and when did you graduate?

Immediately after leaving Southern, I enrolled in a PhD program in Biochemistry at Loma Linda University in California. I graduated with my doctorate in May of 2015.

What are some challenges you encountered?

I think the biggest challenge in pursuing higher education is getting outside of your head. I always had a mentality that I just needed to get to the next goal and then I'd be fulfilled or happy. I've learned over time to just enjoy the process of learning—to lean into the hard work and accept that this is the process.

Continued on page 4

Alumni Spotlight (continued)

What are some rewards?

Of course, the immediate rewards are my degrees. In earning those degrees, I found my passion and calling to do biomedical research. Every single day I get to do something that I love. The career I have now was well worth the years of school it took to get here.

What are you doing today?

I am an assistant professor at the University of California Irvine. I lead my own research group, funded by the National Institutes of Health, to study how inflammation impacts endocrine disease. In addition to my research, I get to mentor and train

graduate students and postdoctoral fellows. I also teach molecular biology and immunology to undergraduates, graduate students, and medical students.

What advice do you have for current students who want to make the most of their time at Southern?

Join clubs. Meet people outside of your major. Say “yes” when people invite you out, even though you really want to study. Don’t miss all of the enriching opportunities around you while focusing on academics. Make sure to do something active, and don’t forget to really rest every Sabbath. It’s rare to be in a

place where you have community around you that understands your beliefs. Do not take it for granted.

Anything else you would like to share with us?

Yes! A career in research is exciting and exhilarating, although it is hard work. If you are interested, ask your professors about research opportunities. If you can’t find one on campus, look online for some paid summer research opportunities at other universities. Feel free to shoot me an email if you have questions. I am very busy but make time for students.

By Dennisse Blood

To be featured on the Alumni Spotlight please write us at chemistry@southern.edu

Follow us on social media! facebook: [chemistryatsouthern](https://www.facebook.com/chemistryatsouthern) & Instagram: [@sau_chemclub](https://www.instagram.com/sau_chemclub)

Donate: <https://community.e.southern.edu/give/chemistry>

Crystal Zhang Glassford Joins the Chemistry Department (continued)

chemistry II, Biochemistry Laboratory, and Survey of Health Chemistry Laboratory. In the future, her responsibilities will also include teaching Biochemistry I, Survey of Health Chemistry, and Chemistry of Everyday Life.

When asked about her first semester at Southern, Glassford said: “I enjoy working in the Chemistry Department at Southern. It has a very supportive and encouraging working

environment. Especially for my first semester, the support and help from my coworkers made it an amazing transition!”

Glassford is also passionate about Southern students. “It’s like a big family,” she stated. “We are not just teachers, but also friends to our students. We spend time together outside of the classroom! This is what I have always wanted since I was a student. I love the Chemistry

Department and hope to serve here as a teacher who influences students academically, physically, socially, mentally, and spiritually!”

Glassford lives with her husband, Daniel, a Southern alumnus, and their infant son, Noah. She enjoys cooking, which she finds relaxing, and also likes to hike in order to better appreciate nature and to get good exercise.

By Brent Hamstra

Department Happenings

Chem Club 2021 - 2022

Warmest greetings to you all! My name is Nicole and I was the Chemistry Club president for the 2021 – 2022 school year. Last fall was an exciting semester as we were able to somewhat return to our “normal” pre-covid traditions. Chemistry Club started the year off with a Welcome Back Party on the first Monday of classes. Amidst socializing and yummy snacks, the club officers were also elected. An exciting addition to the club this year is our first official Instagram account! Follow us at @sau_chemclub.

Following tradition, one of our first events was an outdoor club dinner and vespers at Professor Schilling's beautiful home. We enjoyed hot dogs and potato salad, worship, and of course, the evening would not have been complete without Schilling's homemade ice cream (strawberry, peach, and peppermint flavors).

Another highlight of the fall semester was our celebration of National Chemistry Week in October. This year's theme

was “Rates.” Every day of the week, Chemistry Club offered various treats to students in honor of our love and excitement for Chemistry. The week consisted of a scavenger hunt on the third floor of Hickman, very cool rate demos done by Professor Schilling and Professor Menzmer, as well as free tootsie pops, popsicles, and cookies. We ended the week strong by volunteering at the local Samaritan Center by sorting donations, a traditional volunteering event that the club has done for many years.

One of my favorite events during the year was the Fall Outing where Chemistry Club was joined by Math and Physics Clubs. We camped Friday night at Booker T. Washington State Park, where, despite the cold we had a wonderful evening of singing and fellowshiping by a fire in God's beautiful creation. On Sabbath, the group grew as the clubs held an outdoor church followed by a potluck provided by the departments. It was a wonderful weekend that

was enjoyed by everyone who attended.

Near the end of the fall semester, the officers made Schilling's famous pumpkin bread and sold 48 loaves at 423 Night Market, a Student-Association sponsored student market on campus. The bread was sold out in about 1 hour!

We were excited for the annual Christmas Party/White Elephant gift exchange that happened during the Thursday before finals. There were also several events that occurred during the winter semester. The traditional puzzle making community service event on a Sabbath at Schilling's home, as well as a bonfire type vespers.

I am thankful for the opportunities our club had. I hope the upcoming year club events are just as exciting if not more! I pray that God continues to bless the Chemistry department and their endeavors to celebrate the time we have as a chemistry community.

By Nicole Onciulescu

Chemistry Club Officers 2021 - 2022

President - Nicole Onciulescu

Vice President - Elodie Manalo

Secretary - Charlotte Ishikawa

Treasurer - Joseph Lim

Pastor - Elie Sagage

Sergeant at Arms - Nathan Dickerhoff

Public Relations - Eric Suh



Continued on page 8

Biblical Applications

“Words Have Power”

“I’m just not good at chemistry,” or “I don’t do well on exams,” or “I’m so stupid,” or “I’m such an idiot.” These are just a few of the things I have heard students say to me, or to themselves, during office hours. When I hear students say these things, it reminds me of a saying my grandmother would always tell me in Spanish: “Las palabras tienen fuerza,” which translates to “Words have power.”

The Bible says it, too. “Death and life are in the power of the tongue, and those who love it will eat its fruit” (Proverbs 18:21, NKJV). “By your words you will be justified, and by your words you will be condemned” (Matthew 12:37, NKJV). “But what comes out of the mouth proceeds from the heart, and this defiles a person” (Matthew 15:18, ESV). Too often people talk down to themselves. They compare themselves to others and tell themselves that they are dumb, ugly, not good enough, not smart enough, etc.

I personally think that God designed our brains to seek out evidence for our beliefs, so if you tell yourself “I’m not smart,” your mind will seek out evidence to confirm that, despite the fact that it’s not true. Your brain will say, “Hey, remember all those times you messed up? Remember that quiz you failed? See, you are not

smart!” Your memory may also look for evidence that other people believe you are not smart.

I used to do this negative self-talk to myself, but over time—through prayer and by reading the Bible, self-help books, and



books about how the brain works—I have realized that we truly need to be careful with our words and our thoughts. We need to stay positive, believe that God has amazing plans for us, and act on the knowledge that each one of us is unique and incredible. This kind of thinking has changed my world completely.

See, words do have power. Listen to what the Bible says: “For my thoughts are not your thoughts, neither are your ways my ways, declares the LORD” (Isaiah 55:8, ESV). “Finally, brothers, whatever is true, whatever is honorable, whatever is just, whatever is pure, whatever is lovely, whatever is commendable, if there is any excellence, if there is anything worthy of praise,

think about these things” (Philippians 4:8, ESV). “For I know the plans I have for you, declares the LORD, plans for welfare and not for evil, to give you a future and a hope” (Jeremiah 29:11, ESV).

Now, when I catch my students saying negative things, I stop them and tell them how unique and amazing they are. I explain that words have power and that I am not going to let them talk down to themselves in my presence.

I ask my students, “If you had a friend who talked to you the way you talk to yourself, would you still be friends with that person?” The answer is always “NO!” Will everything be perfect in our lives? No. We will mess up and we will fail at things, but it matters how you think about those obstacles—negatively or positively.

If you think, “How can I grow from this? What is God teaching me in this situation?” that is a growth mindset. If you see that you struggle with negative self-talk or negative thoughts in general, let this be a wake-up call. Those thoughts are damaging you in ways you aren’t even realizing, and they have no place in your mind. Keep a positive mindset, and trust in the Lord. You will be amazed at how your life will change.

By Matthew P. Duffy

Rhonda Scott Retires (Continued)

a defining characteristic of the Chemistry Department.

Following her retirement, Scott has moved to Grand Junction, Colorado. She plans to spend time in retirement

traveling, hiking, and enjoying her family. At the spring meeting of the Southern Adventist University Board of Trustees, Scott was awarded the rank of professor emerita of chemistry in

recognition of her distinguished service to the university. As such, she remains a valued member of the Chemistry Department.

By Brent Hamstra

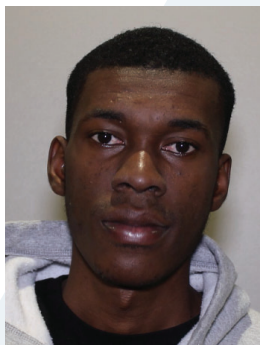
2022 Chemistry Graduates and Their Plans for the Future



Kayley Alonso
BS Chemistry
University of Notre Dame
PhD in Chemistry



Sydney Blackburn
BS Biochemistry
Loma Linda University
School of Medicine



Joseph Chery
BA Chemistry
Gap Year



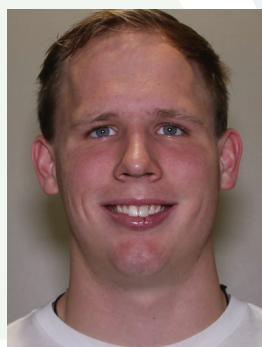
Mei Chin
BA Chemistry
Loma Linda University
Medical School



Brandon Edelbach
BS Biochemistry
Loma Linda University
School of Medicine



Matthew Kim
BA Chemistry
Gap Year
Undecided



Johnathon Merrills
BA Chemistry
Gap Year
Attend Medical School



Phil Moon
BS Biochemistry
Gap Year
Attend Medical School



Giana Muchiutti
BS Biochemistry
Gap Year - Student Missions
Attend Dental School



Kevin Nathanael
BS Biochemistry
Gap Year
Attend Medical School



Nicole Onciulescu
BS Biochemistry
Loma Linda University
School of Medicine



Andrea Stevens
BS Biochemistry
Gap Year
Attend Dental School



Rebecca Thomas
BA Chemistry
Loma Linda University
School of Medicine

Top Achievers & Outstanding Seniors 2022

Connor Schell and Sophia Blackburn each received a \$500 award.

Outstanding seniors were: Kayley Alonso (BA, Chemistry), Nicole Onciulescu (BS Biochemistry)



Power for Mind & Soul

Chemistry Department

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Bruce Schilling, PhD

Tamie Suzuki, PhD

Crystal Zhang, PhD

Dennisse R. Blood, Office Mgr.

Department Happenings (continued)

Bad news, good news: It appears that the primary mirror on our ultraviolet-visible spectrophotometer, the Shimadzu UV-2450, deteriorated over time and was no longer functioning optimally over the full wavelength range.

Although many of us have spent quite a bit of time with this instrument and feel sad to part with a friend, university administration gave approval for the department to purchase a replacement: a UV-2600i, virtually identical to our UV-2600. It came with a new software package, replacing UVProbe. It was a challenge to make such a major switch during the semester, when students were actively using the older instru-

ment, but the new instrument is producing good results, and we will have plenty of data for analysis and report!

In addition to acquisition of the new spectrophotometer, administration also approved a much-needed second critical point apparatus for the Physical Chemistry lab course. Data acquisition on this instrument is time-consuming, and the resulting bottleneck in the Physical Chemistry lab was limiting the time and experience each student had in working with the instrument. Students currently taking Physical Chemistry lab are the first to benefit from this acquisition.

