In This Issue:

1 Remember Dwain Ford
2 New NMR BCCE 2022 Ultra Centrifuge
3 Quant Lab Coats ChemClub Officers ΣΣΕ Honor Society
4 Scholarships Faith & Science
5 Alumni Notes
7 Student Activities
8 Student Researchers Faculty Notes
9 Faculty Memories
10 From the Chair Forensic Lab
11 Graduates

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Lisa Ahlberg, PhD
Ryan Hayes, PhD
Getahun Merga, PhD
Desmond Murray, PhD
David Nowack, PhD
David Randall, PhD

Staff:
Dana Johnston, MS
John Rorabeck, MS

Longtime organic teacher Dr. Dwain Ford joined the Andrews faculty in 1962. He was the chair of our department from 1962-1971 and then served as dean of the College of Arts & Sciences for ten years. He returned to teach organic in 1981. Before his retirement in 1993, he made a difference in the lives of hundreds of students.

Since his passing in November 2021, we have been amazed at the many memories shared by his past students. (see pages 5, 6 and 9)

On September 23rd, we held the Dwain Ford Memorial Symposium on diverse topics representing Dr. Ford’s wide-ranging influence. Six of his former students presented technical talks before we had a time of shared remembrances.

Dr. Ryan Hayes spoke on Chemistry and the Origin of Life. Dr. Linda Mammen presented Alzheimer’s Disease: Prevention & Interventions. Dr. David Alonso described The Development of Untargeted Metabolite Profiling Methodology for the Analysis of Type-2-Diabetes Patient Plasma. Dr. David Son talked about The Synthetic Versatility of Thiol-ene Click Chemistry. Dr. Faye Rogers shared the Targeted Therapeutics for Cancers with Gene Amplification. Dr. Desmond Murray offered A Reflection and Remembrance of Dr. Ford’s Teaching Philosophy.

During the time of shared remembrances following these presentations, many present in person and on Zoom gave anecdotes about Dr. Ford. It was apparent that his life had been a blessing to many individuals, and also to this university, and to the broader Seventh-day Adventist Church. It was noted that there are numerous tertiary educators in chemical education at SDA schools who learned from Dwain Ford. In fact, some of his academic “grandchildren” now teach a new generation of chemists and biochemists as well.

We are grateful for Dr. Ford’s impact, and look forward to being reunited with him when Jesus returns to take him home.
May 3, 2022 was a momentous day for our department, as we received a new 400 MHz JEOL NMR spectrometer. Working with College of Arts and Sciences Dean Amy Rosenthal, this was the culmination of a two-year capital expenditure plan, that hinged on spreading the expense over two fiscal years. JEOL accommodated this plan as they were eager to receive orders coming out of the pandemic.

The department's previous NMR was installed in the fall of 2001. That instrument provided structural proof for countless student researchers, in high school, college, and graduate school. Careful stewardship enabled us, as a team, to keep this instrument in use and functional in the intervening decades. In the intervening decades, However, the system was 20 years old: replacement electronics boards and disk drives when needed were salvaged from previously retired instruments.

The new NMR was the result of conversations over many years between previous chair Dr. Dave Nowack, previous CAS dean, Dr. Keith Mattingly, and the previous Andrews controller (now CFO), Mr. Chip Meekma. We are grateful to the administration for arranging to purchase this important instrument, and look forward to many years of service from the new NMR spectrometer.

After a COVID-pause, the ACS-sponsored BCCE (Biennial Conference on Chemical Education) resumed at Purdue University this past summer. Four department faculty members attended to learn about trends in undergraduate chemistry & biochemistry education and network with colleagues from around the country. As in previous years, a highlight of this year’s conference was re-connecting with fellow Adventist chemical educators from Southern, Walla Walla, and Kettering. This year, we missed colleagues from PUC and LaSierra and hope to see them and more in 2024.

We recently added a Beckman Coulter ultracentrifuge along with a new rotor to our fleet of instruments. This instrument augments the hands-on lab experiences for students in our program.

In the summer of 2021, Dr. James Whitman, an Andrews alumnus approached Andrews STEM departments inquiring if we would be interested in various pieces of equipment, including an ultracentrifuge used in his biotechnology lab that was under transition. Our colleagues from the biology department partnered with us to bring this technology to campus to support molecular biology and biochemistry research and lab. Our previous ultracentrifuge was old when Ralph Scorpio used it in the late 1990s, so this upgrade fills a need. We are grateful for the continued support of our alumni.
Quant Lab Coats—The Tradition Continues!

Congratulations to all the brave new analytical chemists in Quant this fall, who earned their own lab coats.

**Front:** Colin Cha, Ada Chan, Daviah Smith, Joya Dean, Chloe Gaban,
**Middle:** Darien Jung, Gabe Wilson, Ethan Drew, Emily Atencio, Gabi Srikureja,
**Back:** Ian Neidigh, Suvan Campbell, Ralph Gifford, Andy Zhao

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**ChemClub Officers**

*Student Club for Chemists, Biochemists, and Friends*

**Back:** Dr. Ryan Hayes, Sponsor
- John Roosenberg, Social VP
- Nick Bishop, Spiritual Vice President
- Kiheon Chung, Treasurer

**Front:** Gina Park, Vice President
- Zoë Gentles, President
- Rekha Isaac, Secretary
- Anneliese Tessalee, Public Relations

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**Gamma Sigma Epsilon**

*Chemistry Honor Society, ΤΣΕ*

- Anneliese Tessalee, Recorder
- Jongwan Bae, President
- Rekha Isaac, Vice President
- Dr. Lisa Ahlberg, Sponsor
- Chaehyun Kim, President
- Kiheon Chung, Sergeant at Arms

Not Pictured: Olivia Joyce, Treasurer
Scholarships 2022-2023 school year

Lois K. Mutch Scholarship
Gabi Srikureja, Olivia Joyce, Julia Randall

Dwain Ford Scholarship
Ian Neidigh, Kiheon Chung

Richard Cook Scholarship
Alannah Tjhatra, Rekha Isaac

Thomas Mullin Scholarship
Andrew Wee, John Roosenberg

Minesinger Scholarship
Andy Zhao

Robert Wilkins Scholarship
Chaehyun Kim, Justin Corbett

H. F. Halenz Scholarship
Gabriela Francisco, Yishan Jin, Zoë Gentles

Glen Abbot Scholarship
Owen Faehner

Ralph Scorpio Scholarship
Chaehyun Kim

Hall & Miller Scholarship
Jongwan Bae, Suvan Campbell, Heecheon Oh, Anneliese Tessalee

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Faith & Science

The Dr. Hayes (and family!) has been busy giving talks about the chemical design of Earth. Many churches have been interested in hearing about the fine-tuning and intelligent design of our planet regarding the chemistry built into Earth.

Over the last year, Dr. Hayes gave presentations in Iowa (Mason City, IA), at Beavercreek SDA Church (near Dayton, OH); at Timber Ridge Family Camp (Spencer, IN); at Winston-Salem First SDA Church (Winston-Salem, NC), at Rochester SDA Church (Rochester, MN), at Camp Au Sable for Lay Advisors weekend retreat (Grayling, MI), and at Hillview SDA Church (Nassau, Bahamas). Additionally, he and his wife helped provide science experiments for around 350 children at the NAD pastor’s convention in June 2022 (Lexington, KY).

These talks are full of chemical demonstrations directed towards teaching chemical properties about air, water, DNA, proteins, natural versus unnatural chemical reactions, and whether molecules can form life spontaneously (abiogenesis). All the talks were well attended (50 to 200 people). Invitations usually happened through word-of-mouth advertising.


Use the QR code to visit our YouTube channel for creation science videos from a chemical perspective.
Loren Barnhurst (BS Chem ’96)

I am starting my 4th year teaching general chemistry and organic chemistry at Kettering College, where I have recently been tagged as interim chair for the Human Biology department.

This summer, I was invited to play in the 2022 PDGA Masters Disc Golf World Championship in Peoria, IL. I placed 33rd in the world in the MA40 division. With that result as a confidence boost, I traveled to Milford, MI, and was able to secure the win in the 40th Annual Discraft Great Lakes Open.

Juanita Moses (BS Chem ’93)

I am so sad that I was not able to be there this year to celebrate Dr. Ford’s life in person. Dr. Ford, the man, the myth, the legend!

I loved the stories he shared in class about his applications of chemistry to real life. Remember the one about the bar of soap and the car? He had a unique ability to inspire and a talent for explaining difficult concepts.

Dr. Ford taught me methods to process information that have been useful in my career in medicine. I also was blessed to grow and study in an environment where our teachers knew us personally and cared about us.

For years, every time I came back to visit the Andrews campus and specifically Pioneer Memorial Church, Dr. Ford would reach out and greet me.

I am sad to hear of his passing on this earth, but look forward to more learning adventures for eternity!

Bob Hoffman (BS Chem ’89)

Dr. Ford played a key role in my decision to become a chemist, that started with his organic chemistry class, but continued throughout my education. He assisted in placing me in an undergraduate organic chemistry internship at The Upton Company in Kalamazoo.

Dr. Ford invited me back later to present a seminar on my research for the department. Dr. Ford’s enthusiasm for organic chemistry and science in general was contagious. I am confident that I am one of many former students who looked back to him as a favorite educator who left a lasting mark on their careers.

I’ve included a photo of my glassblowing hobby.

R. Daniel Snider (BS Biochem ’86)

I met Dr. Ford in the fall of 1983, at the beginning of my sophomore year at Andrews University. It was my first day of organic chemistry, I was nineteen years old and eager to keep moving forward, one stepping stone after the other in the path toward a career in medicine. At the time, organic was just the next step in a long line of stones, perhaps never to be thought of again. Looking back, I did not appreciate it so much that day as I did in the days and decades that followed — Dr. Ford was one of the most genuine and finest role models of whom I have ever known, and the knowledge that he imparted on that first day in particular has echoed in my memory ever since.

Dr. Ford was a kind man — forthright, a gentleman’s scholar and always ready and willing to listen to a student’s problems, either academic or personal, and in turn he would provide an unselfish and Christ-like assessment.

On that first day in 1983, Dr. Ford spoke to us for several minutes, welcoming us to his class. He said that it was likely to be challenging, but it would also be fulfilling. He assured us that he would be available to provide guidance and answer questions, and in return he expected us to do our best and to arrive to class on time. He believed that we all were worthy of being there by virtue of our past achievements. And then he closed his welcome with a declaration that I

(Continued on page 6)
have never forgotten.

“I cannot teach you anything new. I can only bring out that which is within you.”

Those words have stuck with me for the last 39 years and I have quoted him often. At the time and for many of the early years following my year of organic chemistry, I believed it to mean that we all have it within ourselves to know and understand all of which mankind has learned over the centuries, if we only had the time to process it all. All of us in that classroom were intelligent beings, and given enough time, we were all capable of knowledge on the level of Galileo, Copernicus or even Einstein.

In my own time, and as I begin to contemplate my own mortality, I have come to believe that there was an even deeper meaning to Dr. Ford’s words of welcome all those years ago.

It was not just textbook knowledge that he would elicit from each of our open minds, but it was his goal to also bring out the most important parts of human nature that would allow each of us to be the best human being that we were meant to be. He would bring out an understanding of the importance of diligence — not just in our study of organic chemistry, but also the diligence necessary to achieve the goals that we were setting for the rest of our lives. He would bring out from our youthful experience the importance of integrity and how only through honesty and self-sacrifice could we succeed even if we sometimes failed on the stage of life. By his example he would bring out the importance of generosity — of both time and empathetic brotherly love, and by doing so the same would be brought out to be paid forward for generations to come.

“I can only bring out that which is within you.” For me, that was his legacy. His message still resonates with me today and as many times as I have stumbled in my personal education, I think back to Dr. Ford’s words and I resolve to try harder to bring out the best of me for the sake of the next generation.

It was the fall of 1983 when I first met Dr. Ford and subsequently (over the next three quarters) learned how to synthesize a complex organic compound — a process that I have long forgotten, but more importantly it was on that first day of class that he taught my young, naive, and inexperienced mind how to lead a life that advocated for the best of humanity. For that lesson I will always be grateful.

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**Bob Nutter (BS Chem ’71)**

I had the great pleasure to study under Dr. Dwain Ford for the four years I was in his department. Organic chemistry, by some twisted class scheduling law, was always first period, but Dr. Ford was fresh, clear and interesting in his lectures even though some mornings many in the class were operating at less than full power.

I proctored for Dr. Ford and was responsible for setting up and running his organic chemistry labs during my junior and senior years. Therefore, we were very close during those years at Andrews. Dr. Ford’s labs trained me to be a careful and thorough bench scientist, and at the same time to have the curiosity to find out why experiments sometimes did not provide the expected results.

I had planned to continue my graduate studies in organic chemistry after graduation from Andrews. However, because of my many conversations with Dr. Ford, I became more and more interested in biochemistry, an interest I never lost. The training I received from Dr. Ford gave me the solid organic chemistry foundation I used to ultimately receive my PhD, a post-doctoral fellowship, and a successful career as a research scientist in nucleic acid biochemistry and DNA sequencing genetic analysis. For that, I cannot thank him enough.

I trust there were many more chemistry students who were encouraged and guided by Dr. Ford through his years teaching. He was always unfailing in his willingness to explain difficult concepts in organic chemistry (there were many!) and to provide sound advice to his students. My hope is that I was able to provide the same level of training and guidance to the scientists working with me during my career. May he rest in peace.
Graduation is the culmination of the Andrews experience. We were happy to return to our tradition of meeting with graduating students and their families for a Sabbath lunch during graduation weekend. It is exciting to share this time with students as they pass this mile stone. (see photo above) Back from left to right: Nathaniel Srikureja (BS Biochem ’19), Joshua Pak, Emma Suvacarov, Hannah Castillo, Isabella Tessalee and her mother Daphne Dimalibot (BS Biochem ’90), Nels Wangsness. Front: Mr. Rorabeck, Dr. Randall, Dr. Ahlberg, Dr. Murray, Dr. Hayes

We couldn’t forget Mole Day! A few weeks ago, on the third Friday of October, the ChemClub provided walking taco extravaganza featuring guacamole, lemole-ade, games, campfire, a periodic table of cupcakes, and ‘smores. This was followed by spiritual reflections from Dr. Nowack.

Though it wasn’t technically on 10-23, we did not neglect to recognize our hero Lorenzo Amedeo Avogadro and his wonderful mole!

A brand new “tradition,” only two years old, is the Welcome to School Veggie Hot Dog Feast. On the first Friday of the school year, we heat up a lot of dogs, and provide all the toppings you could imagine. It is a fun way to meet new people, and reconnect with old friends.

In September, many of our majors volunteered to help the faculty teach the Pathfinder Chemistry Honor to Lake Union Camporee participants. About 60 Pathfinders completed the hands-on activities at the 10 stations spread through our department.

Students from our honor society, Gamma Sigma Epsilon got the youngest members of the community involved with exciting chemistry demonstrations at the Berrien Springs Public Library during National Chemistry Week.
Jongwan Bae, a biochemistry major, is working with Dr. Dave Nowack testing water for elements via the ICP-OES machine. They plan to create a water survey of Berrien County and start a business on water testing.

Gabriela Francisco, a biochemistry major, is working with Dr. Desmond Murray to combine the mania and depressive medications for bipolar disorder into one.

Zoë Gentles, a chemistry major, is working with Dr. Lisa Ahlberg on a research project characterizing DL amino acids with HPLC chromatography.

Yishan Jin, a biochemistry major, is working with Dr. Lisa Ahlberg researching enantiomers.

Ian Neidigh, a chemistry major, is working with Dr. Lisa Ahlberg on a research project using HPLC methods for separation of amino acids.

Chaehyun Kim, a biochemistry major, is working with Dr. Ryan Hayes on research on stabilizing vitamin C with PAMAM dendrimers.

Dr. Lisa Ahlberg continues to teach organic chemistry. This is her fifth year leading out as the sponsor of the student chemistry honor club, Sigma Gamma Epsilon. She also mentors a number of students in research. Aaron Jacobs, a recent graduate, presented a poster with Dr. Ahlberg at this year’s ACS meeting in August. She published a paper in J. Adv. Educ.

Dr. Ryan Hayes is teaching general chemistry and instrumental analysis this year. He has a number of students working in his research group studying characteristics of dendrimers. He continues to enjoy his outreach and demonstrations for churches, youth groups and the general public regarding faith and science.

This year, Dr. Getahun Merga will teach consumer chemistry, inorganic chemistry and the first semester of physical chemistry. His research continues to be in the area of gold and silver nanoparticles.

Dr. Desmond Murray now teaches intro-chem sequence. He continues to schedule interesting speakers for the seminar series, to teach the senior-level seminar course, and to lead his research group. At the ACS meeting in August, Dr. Murray presented two posters.

We congratulate Dr. Dave Nowack on receiving the Bruce E. Lee Service Award this past April. He is now in his second year teaching the RESA grades ten and twelve chemistry courses for the Math & Science Center. He continues to teach biochemistry and mentor student researchers.

Dr. David Randall this year will teach quantitative chemical analysis, and the second semesters of both general chemistry and physical chemistry. He continues to serve the department in the role of chair.
G.W. Mutch: I was a freshman the fall of 1961, and Dwain came to Andrews the fall of 1962, so I took Organic Chemistry from him during his first year. He was an excellent teacher, very interested in his students’ spiritual life and their academic progress, and would assist students in whatever ways he could. He was the first teacher who ever called me to his office to offer prayer for me and my progress. And one time when he decided that I needed a new pair of shoes, he took me to the store and loaned me $10 until I could extract it from my school account and pay him back.

Although Bob Wilkins was the department chair who hired me in 1973, Dwain was the CAS dean who approved such a risky move!! Dwain was a major mentor for me and many others throughout his career, and in that way he developed the legacy of a serious scientist and a faithful Christian man. He will be missed.

Peter Wong: I am thankful for my visit with Dwain several months before his passing, which has turned out to be the last time I saw his smile. It goes to show that one should do whatever one thinks should be done. There may not be another chance to do it later.

Dwain was the one who invited me to join the Chemistry Department at Andrews in 1969. It seems to be eons ago, before some of you were born! I don’t know much about the family history of Dwain, but I do know he came from a family of five boys. I knew two of his brothers well when I was in graduate school in upstate New York. They were dairy farmers who resembled and spoke just like Dwain. When I met Dwain later I could tell right away that he was one of the Ford boys.

Dwain can be remembered as a remarkable person who has dedicated his life to education and denominational service. He was an outstanding teacher, department chair, and dean. It was more remarkable that he was able to accomplish all that in spite of personal and family challenges he had to face. There is no doubt he has left quite a legacy at Andrews, and he deserves to be on a page in the history of the university.

David Randall: In addition to his presence at departmental events, my memories of Dr. Ford are primarily from organic chemistry. Specifically, his use of his body to demonstrate vibrational normal modes when teaching the IR module. Symmetric and asymmetric stretching were obvious enough, but he also showed us scissoring, wagging, twisting, and so forth. These were entertaining and memorable as a student. This demonstrates another way the lengths to which Dr. Ford was willing to go to help students learn – to give them what they needed to be successful.

Desmond Murray: I was an organic chemistry grader and teaching assistant for Dr. Ford in the early ’80s. I did at least two research projects with him: one on the effect of hard and soft Lewis acids on styrene polymerization, the other on studies towards synthesis of asparagusic amino acid. Today, some of my synthetic studies parallel to some degree the research I did with Dr. Ford. For example, some involve synthesis of small molecules with highly dense juxtaposed functional groups and another involves exploration of oxophilic vs halophilic Lewis acids in electrophilic carbonyl additions, an underexplored field of organic chemistry.

Dr. Ford wrote a letter of recommendation for me when I was looking for a teaching job after my postdoc. I assume that he informed Dr. Mutch and that began the process for my hire and tenure at Andrews. In my first two years here, I worked fairly close with him especially for my high school teaching responsibilities. I recall that he met my mom and dad when I was a new teacher.
Dear Alumni

As 2022 enters its closing weeks, we are grateful for God’s continued blessings on our Chemistry & Biochemistry learning community here at Andrews. The faculty are grateful to return to a semester that looks almost like fall 2019. Students were also pleased to return to normal — there was an extra sense of happiness. Because we have spent the past 2+ years progressing with altered labs and slightly descoped learning objectives, a few students have been challenged as they might have missed a small but important bit of pre-requisite knowledge or skill. But with faculty support, all are persevering through this challenge.

We were grateful for alumni interest in the Dr. Dwain Ford Memorial Symposium on Sept 23, during the university’s alumni weekend. Along with the 6 alumni presenters, about 25 attended this event. It was wonderful to catch up with alumni both online and in person at the event and at the following reception. I was impressed with the stories of Dr. Ford’s impact on so many of us!

Getting the new NMR was a huge milestone. While the NMR arrived on campus this year, this involved conversations over the better part of a decade. Our 2001 NMR was partially funded by generous alumni support. Through careful stewardship, it had served us well beyond its expected life, but for the past several years, we were one fried circuit board away from the instrument becoming non-functional. Partnering with many Andrews administrators over the years to plan this major purchase avoided a panic buy. We remain grateful for the continued commitment — in word and dollar — of the university’s administration to making quality, world-changing, science education possible.

We continue to move forward with a great group of departmental majors, currently 42 students. The faculty of your department continue to adapt to the challenges we face. Three presented work in scholarly conferences or journals.

I pray for a blessed and joyous holiday season for you and your loved ones!

E-mail alumni updates and pictures to David Randall at chemistry@andrews.edu
Pictured above from left to right:

**Anaya Abdul-Haqq**, BS Biochem (Summa Cum Laude), is working as tutoring coordinator at Andrews, planning to start medical school at Loma Linda in 2023;

**Nels Wangsness**, BS Biochem, is working at Centura Healthcare in Colorado, planning to start medical school in the fall of 2023;

**Emma Suvacarov**, BS Biochem (Magna Cum Laude), is at University of Illinois, Urbana, for veterinary school;

**Hannah Castillo**, BS Chem (Summa Cum Laude, American Chemical Society, JN Andrews Honors Scholar), is at Yale University pursuing a PhD in physical and analytical chemistry;

**Joshua Pak**, BS Biochem (Magna Cum Laude, JN Andrews Honors Scholar), is working in the chemical industry near Boston, and plans to seek an MBA degree;

**Alyssa Henriquez**, BS Biochem (Summa Cum Laude, JN Andrews Honors Scholar), is at Duke University School of Medicine;

Not Pictured:

**Daranthea Atmadja**, BS Biochem (Summa Cum Laude), graduated in December 2021, and is attending New York University College of Dentistry;

**Kim Lun**, BS Biochem, is studying psychology at University of NC, Chapel Hill;

**Grant Sajdak**, BS Biochem (Magna Cum Laude), is studying at Loma Linda University School of Medicine;

**Isabella Tessalee**, BS Biochem (Cum Laude, JN Andrews Honors Scholar), is at Loma Linda University studying for a medical masters.
Happy Holidays
From your Department of Chemistry & Biochemistry

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