

ANNUAL POSTER SESSION

Jointly Sponsored by

The Dayton Section
of the American Chemical Society
and
The Society of Applied Spectroscopy
Ohio Valley Section



In addition,

THE PATTERSON COLLEGE CHEMISTRY AWARDS

April 1, 2014
Wittenberg University
Joseph C. Shouplin Center



Agenda

Poster Setup: 5:30 PM - 6:00 PM

Poster Judging: 6:00 PM - 7:00 PM

Poster Viewing: 6:00 PM - 7:30 PM

Awards: 7:30 PM - 8:15 PM

2013 DAYTON SECTION OFFICERS

Chair: Leanne Petry

Chair Elect: Wayne Cook

Immediate Past Chair: Lori Balster

Secretary: Yu Kay Law

Treasurer: Rachel Aga

Councilor: Steve Trohalaki

Alternate Councilor: Rachel Jakubiak

Dayton Section Web Site:

<http://DaytonACS.org>

Like us on Facebook: Like us to get updates on the latest Section events and updates!

History of our Host Venue

Wittenberg University, affiliated with the Lutheran church since its founding in 1845, was named after the university in Wittenberg, Germany where Martin Luther posted his famous 95 theses. The 114-acre campus is home to 1800 students who choose from over 60 major and minor programs, including a recently approved RN to BSN degree completion program.

Chemistry has been taught at Wittenberg since its founding. Certified by the American Chemical Society for over 50 years, the Department of Chemistry has six full-time faculty, and annually graduates an average of eight Chemistry majors and six Biochemistry/Molecular Biology majors (BA and BS degrees). In 2012, the department received the NIOSH Collegiate Award from the ACS Division of Chemical Health and Safety. Notable alumni include Robert Morrison, class of 1939, co-author (with Boyd) of the well-known textbook *Organic Chemistry*, and Elwood Jensen, class of 1940, co-recipient of the 2004 Albert Lasker Basic Medical Research Award for his important discoveries in cancer biology.

The Dayton Section of the ACS thanks Provost Chris Duncan and Chemistry Department Chair Kristin Cline, as well as all the department faculty and students of Wittenberg University for welcoming, hosting, and providing support for the 2014 ACS Poster Session.

Patterson College Chemistry Awards

The Patterson College Chemistry Awards are administered by the Dayton Section of the American Chemical Society and are presented annually to outstanding junior chemistry majors at each university within the Section's boundaries.

This year, the awardees are:

❖ Hannah Justice	Cedarville University
❖ Coastal Lewis	Central State University
❖ Nathaniel Lundy	University of Dayton
❖ Garrhett Via	Wittenberg University
❖ Corrie Spradlin	Wright State University

The following pages contain short biographies of the honorees. The Dayton Section offers its most sincere congratulations to these distinguished students.

Hannah Justice

Cedarville University

Hannah Justice is a junior Chemistry major at Cedarville University. She has called Dallas, TX home since 2007 and graduated from high school there in 2011. Her interest in Chemistry began with a “bang” when her chemistry teacher in high school exploded a hydrogen balloon the first day of class. Since then, her fascination with chemistry has never faded. She has enjoyed her chemistry classes thus far at Cedarville, and the opportunity to learn from so many amazing professors.

Hannah is involved with the Honors program on campus, which has allowed her to take classes in the humanities and arts. She also has had the opportunity to serve as the Treasurer for the Cedarville University Chemistry Club (an official ACS student chapter) for the past year and a half. She works as a Chemistry tutor on campus and enjoys the opportunity to share her love for Chemistry with other students. In her free time, Hannah enjoys volunteering at a free clinic and local hospital in Xenia, working with patients. She has taught 3-5 year old Sunday school class at her church for the past year and a half. She is also training for a half marathon planned for May with her father and brother in Dallas.

This summer, Hannah plans to apply to medical schools in Texas and Ohio; she is also waiting to hear from a number of REU programs in Texas about summer research. Hannah hopes to be able to participate in medical research as well as patient care as a physician. Her experience working with the underinsured and uninsured in Xenia has given her a strong desire to donate time towards similar work as a physician later in life.

Coastal Lewis

Central State University

Coastal Lewis was born in Albany, Georgia on 17 July 1993. He is the oldest of three children and also the oldest out of 20 grandchildren. As a child of a Chief Master Sergeant in the Air Force, Coastal moved around a lot in his youth. He attended three different high schools. The first high school he attended was Choctawhatchee High School (CHS) in Fort Walton Beach, Florida. After his first semester at CHS, he moved to Warner Robins, Georgia. Coastal was a scholar athlete that excelled on the football field all four years in high school as a middle linebacker that contributed to helping Warner Robins High School defeat the number 2 team in the nation in 2009. In the summer of 2010, Coastal moved to Kettering, Ohio because of the transfer of his mother to Wright-Patterson Air Force Base (WPAFB). In May 2011, Coastal graduated from Kettering Fairmont High School in the top ten percent of his graduating class of over 500 students.

Coastal enrolled at Central State University (CSU) in the fall of 2011 on full academic scholarship. Coastal has an interest in medicine and therefore is majoring in chemistry. His professional goal is to become an anesthesiologist. While at CSU, Coastal has played for Central State's football team and has been a tutor assisting fellow classmates in math and chemistry. During the summer months, Coastal interns with chemistry professor Dr. Daqing Gao conducting computer modeling research to compute and calculate molecular structures and vibrational frequencies. Coastal is also a current government employee for the National Archives and Records Administration in Moraine, Ohio. He is an active member of the CSU Chemistry Club and most recently assisted with the West District Science Fair.

Nathaniel Lundy

University of Dayton

Nathaniel McGeorge Lundy was born on April 2, 1993 to his parents Jim and Debbie. He grew up in the suburbs of Akron, OH, about 45 minutes south of Cleveland. From a young age, Nate showed keen interest in the sciences, sports, and his Catholic faith. Since enrolling at the University of Dayton in the fall of 2011, he has dedicated himself to numerous endeavors. He is a catcher on the Dayton Flyers NCAA Division I varsity baseball team, a Chaminade Scholar, and a member of the Alpha Epsilon Delta Premedical Society. Nate shows his commitment to bettering the community through his volunteer work with KIND (Kids In a New Direction), Reach Out of Montgomery County free clinic, and UD President's Emissaries. With all of these involvements, he still takes his academics very seriously. Nate works as a Supplemental Instruction Leader for Organic Chemistry 314 and works with Dr. Shawn Swavey in his research lab to investigate photodynamic therapy treatments for cancer patients.

The #1 priority of Nate's life, however, is striving to live out his Catholic faith. One of the ways he works to accomplish this is through UD's Catholic LIFE organization in which he serves as a weekly Rosary prayer group leader. When asked what his life goal is, he responded: "Without a doubt, to become a doctor, most likely a surgeon. I am not sure exactly what field, but I have shadowed in pediatric and orthopedic surgery and loved them both. I feel that God is calling me to be an instrument of His healing in the world and I hope that I am able to live up to that incredible call."

Garrhett Via

Wittenberg University

Garrhett Via is currently a junior at Wittenberg University. He is pursuing a Bachelor's of Science degree in Chemistry and minors in Statistics and Biology. He is from Geneva, Ohio and graduated from Geneva High School. Outside of his academic studies, Garrhett enjoys being outside and participating in a range of activities including biking, golf, tennis, skiing, shooting, and riding horses. Additionally, Garrhett enjoys attending Catholic masses and watching NASCAR races.

Last summer, Garrhett had the opportunity to work with Dr. Kristin Cline regarding the modification of glassy carbon electrodes via a one-step solvent-free process utilizing diazonium salts. This research built off of previous literature studies concerning the solid-state grafting of diazonium salts and the synthesis of aryl halides from diazonium intermediates. He recently presented his findings at the PittCon analytical and instrumentation conference held in Chicago.

Outside of Chemistry, Garrhett is a recent inductee of Phi Beta Kappa and the Mortar Board. He has made the Dean's List every semester and currently holds a 4.0 GPA. He is a member of the Lambda Chi Alpha fraternity where he has served as treasurer for two years. Garrhett is a member of the Chemistry Club where he also serves as treasurer. He holds on campus jobs as a laboratory teaching assistant and as a chemistry/math tutor. Garrhett is an avid volunteer at the Springfield Regional Medical Center, and he plans to attend medical school upon graduation and has potential interests in either orthopedic surgery or anesthesiology.

Corrie Spradlin

Wright State University

Corrie Spradlin is a junior chemistry major in the Department of Chemistry at Wright State University. Corrie is from Forrest, Ohio where she graduated high school from Riverdale High School. She was always interested in chemistry during her middle and high school days.

Corrie has had an interest in improving the quality of life and joined Dr. Lunsford research group during the Fall of 2013 to work on the development of sensors to detect contaminants such as heavy metals to common compounds that have the 1,2-dihydroxybenzene structures. Additionally, she has been focused on chemical education courses due to her interest in how to engage students to learn. Corrie has been working to develop labs that are of interest to students to teach the basic topics such as oxidation and reduction.

Additionally, Corrie is a well-rounded student that has been a part of the gymnastics club at Wright State University, and she has helped students gain an interest in exercise for your body, not only your mind.

In the future, Corrie plans to continue her task to learn novel research by working on a Ph.D., while her future husband Dillon will be working on his Ph.D., in engineering. Corrie plans on getting married in the Spring of 2015 to her high school sweetheart Dillon.

History of the Dayton Section of the American Chemical Society

The beginnings of the Dayton Section date back to 1929. The first official Chair of the Section was Dr. C. A. Thomas, who served from 1931-1932. Our current membership is about 450, covering the counties of Montgomery, Greene, Miami, Clarke, Preble, and Darke. Section meetings, featuring national and local speakers, are held quarterly and include a local poster session. In addition, the last meeting of the year honors the 50-year and 60-year members. The Section has a long history of administering local philanthropy:

The Patterson High School Chemistry Awards go to winners of the Patterson High School Chemistry Competition, which consists of two stages: examination and essay. First, second, and third prizes are \$1000, \$750, and \$500. Originally established by Charles A. Thomas and Carroll A. Hochwalt, former Dayton chemists and Monsanto researchers, the top chemistry students in the area have been recognized since 1943. In 1990, the family of the late Austin M. Patterson, also a prominent Dayton chemist, assumed sponsorship.

Last year, a new competition was offered to encourage high school students who have an interest and aptitude in chemistry to persist in their STEM education. This competition is open to any chemistry student enrolled in one of the high schools within Dayton City Schools. **The Marie Daly Award** is named for Marie Daly, who in 1947 became the first African American woman to earn a Ph.D. in chemistry. This competition will be continued this year.

Recipients of **The Patterson College Chemistry Awards** are chosen by the faculty of each of the universities within the Dayton Section from their outstanding junior chemistry majors using the general criteria of scholarship, character, extra-curricular involvement, and potential for success after college. Winners receive a certificate of recognition and a check for \$400.

The Patterson-Crane Award was originally established in 1949 as the Austin M. Patterson Award to acknowledge meritorious contributions to chemical literature and documentation of chemistry. Dr. Patterson was the first recipient for his work as editor of Chemical Abstracts from 1909-1914. The biennial award was expanded in 1975 to honor another Chemical Abstracts editor (1915-1958) and 1953 award recipient, E. J. Crane. The award, which includes a monetary honorarium, is now funded by a bequest of the Patterson family, by the Helen G. Crane Fund of the Columbus Foundation, and by the Patterson-Crane Award Fund of the Dayton and Columbus Sections.

The Dayton Section also participates in the **Dayton/Miami Valley TechFest**, and contributes funds and judges for the **West District Science Fair**.

History of the Society for Applied Spectroscopy

The Society for Applied Spectroscopy (SAS) is a non-profit, international, professional membership organization for scientists in all fields of spectroscopy, including physics, chemistry and other allied sciences. SAS is dedicated to those interested in all phases of spectroscopy: the science and art of light absorption, light emission, Raman scattering, and related forms of light-matter interaction for determining the composition and structure of matter.