Jerry Manion Outstanding Student Award

Jerry Manion served for 27 years as chairman of the Department of Chemistry, from its beginnings in 1965 until he stepped down in 1992. He followed his extensive service as chair with an additional 22 years of work as a professor of organic chemistry until his passing in 2014.

Jerry's 49 years of combined service at UCA, the longest tenure of any professor at the university in 2014, included many opportunities to mentor students in his class, his lab, and his office. A great many students had their careers and futures shaped by Jerry's input and advice. His mark on the department continues today in the faculty he hired and the students who continue to be drawn to UCA Chemistry for its dedication to student-focused instruction and its passion for chemistry.

In 2011, Dr. Slaton Fry (B.S. 1980) established an award fund honoring Jerry's impact on Slaton when he was a student. This fund now supports the department's Jerry Manion Award, annually recognizing its outstanding graduate as voted by department faculty. Not surprisingly, Jerry Manion Award winners have continued to represent those same ideals that Jerry championed when he was a professor for 49 years. Thank you, Jerry, and thank you, Slaton.

| Recipients | |
|------------------------------|------------------------------------|
| Jamie Chen (2023) | Amber Rolland (2016) |
| Taylor Coulson (2022) | <u>Sergio Perez Bakovic (2015)</u> |
| Kathryn Walden (2021) | <u> Aaron Owen (2014)</u> |
| Joseph Schneider (2020) | <u>Ryan Parker (2013)</u> |
| Emily Tran (2019) | Venusa Phomakay (2012) |
| <u>Kaitlyn Walden (2018)</u> | Brian Besel (2011) |
| Danica Ordoñez (2017) | |

2023 – Jamie Chen

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Jamie Chen earned a B.S. ACS Certified Chemistry -- Concentration in Biochemistry degree, a minor in mathematics, and Honors in Chemistry in May 2023. Jamie performed research with Dr. Gregory Naumiec for two years, and her multistep organic synthesis and catalysis work is summarized in her thesis titled "Synthesis of a multimodal drug to combat both Chagas disease and human African trypanosomiasis." Her research in the Summer of 2022 was funded by the

Advancement of Undergraduate Research in the Sciences endowment. She received first place in the poster presentation in chemistry during the Arkansas INBRE Research Conference in Oct 2022. Jamie has been active with the student American Chemical Society (ACS) chapter since her freshman year at UCA, and she has served the chapter as the organizational secretary, vice president, and then president in her senior year. Jamie will start pharmacy school at the University of Minnesota in Fall 2023.



2022 – Taylor Coulson

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Taylor Coulson, a native of Alma AR, is graduating from the University of Central Arkansas with an American Chemical Society certified chemistry degree, biochemistry concentration. Further, she is completing a second major in English, and a minor is mathematics. She has served the chemistry

department as a teaching assistant, an assistant in the stock room, and as a Supplementary Instruction leader for the Organic Chemistry class. Taylor did her undergraduate research with Dr. Richard Tarkka, where she worked on a project correlating the antibiotic properties of Arkansas honeys with their chemical fingerprints, determined by ¹H NMR spectroscopy. Taylor embodies the qualities that made Jerry Manion, the namesake of this award, a dynamic educator and colleague: an unbridled enthusiasm for learning, a curiosity about new topics, and a joyful personality that makes her a pleasure to work with. Taylor begins her graduate work in chemistry at the University of Oregon in Fall 2022.



2021 – Kathryn Walden

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Kathryn is an intelligent, dedicated, and insightful student who has served our department for many years as an office worker. In this role, Kathryn was welcoming, knowledgeable, and professional in her administrative tasks. She especially enjoyed sharing chemistry jokes on the office letterboard. As a student, Kathryn was dedicated and insightful in her studies and actively sought connections among the concepts she was learning in different courses. She completed computational chemistry research with Dr. Makenzie Long in collaboration

with Dr. Bill Taylor. Her work provided mechanistic insight into gas phase reactions of gold-bearing cations with methane and substituted methane analogs. These reactions have implications in the catalytic ability of gold cations in methane activation and alternative fuel sources. Simply put, her computational results explained why Dr. Taylor observed what he did in his experimental lab. Her dedication, accuracy, and efficiency as a research student were instrumental in successfully publishing this work in *The Journal of Physical Chemistry A* in 2021. Kathryn was awarded a Student Undergraduate Research Fellowship from the Arkansas Department of Higher Education to fund her research and her Honors College thesis was voted best department honors thesis. Kathryn aspires to join the medical field, where her warmth, dedication, and intelligence will serve her well. Kathryn is pictured here with her mentor, Dr. Makenzie Long.



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2020 – Joseph Schneider

Joseph, from Ft. Smith, was a fixture in the department throughout his four years at UCA. His commitment to service was evident very early on when he worked as a peer mentor for students in the STEM residential college in Arkansas hall during his freshmen year. He was a leader in the department's national award winning student chapter of the American Chemical Society (ACS), serving as secretary and then as chapter president his final year. Like Jerry Manion, Joseph loved to do chemical demonstrations for his classmates and for

numerous outreach activities involving area grade-school students and the public. His last two years, he served as the department's head chemistry tutor. His chemistry honors thesis was recognized as the top thesis from the department in spring 2020. Joseph worked in the lab of Dr. Lei Yang for three years, investigating multi-copper systems as models for natural copper-proteins. This work resulted in him being first author on a 2020 *Inorganic Chemistry* publication of their work. Joseph works for *3d Imaging* in Little Rock. This company creates radioactive isotopes using a synchrotron and synthesizes compounds used in medical imaging, especially PET imaging.



Joseph as "Professor Mole," with Dr. Bill Taylor, 2018 Fall SW Regional ACS meeting, Little Rock.

2019 – Emily Tran

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Emily, a first-generation college student, came to UCA from Fort Smith, AR. She earned an ACS Certified B.S. degree in chemistry (May 2019), with minors in mathematics and computer science, including departmental honors. Her research in the laboratory of Dr. Greg Naumiec was summarized in her thesis "Squaramide-based anti-parasitic drugs toward the discovery of novel treatments for American *trypanosomiasis*," earning the 2019 Outstanding Departmental Thesis Award (funded by Advancement of Undergraduate Research in the Sciences). She represented

UCA very well in 2017, being awarded a Student Undergraduate Research Fellowship, and in 2018, being honored with a Goldwater Scholarship Honorable Mention and an Honorable Mention for the Arkansas INBRE Oral Presentation Competition. Em was a fixture in the department's national-award-winning student ACS chapter throughout her time at UCA, serving as its president in her senior year. Em is also a highly artistic and creative person. For years the student ACS display board was decorated with her innovative original Drs. Flame and Krystal seasonal displays. She also worked as a teaching and stockroom assistant and served on the department safety committee. Em is following her B.S. degree with a post-baccalaureate research fellowship at the National Institutes of Health in Maryland. Her goal is to complete an MD/PhD degree likely focusing on medicinal chemistry research.



2018 – Kaitlyn Walden

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Formerly from Huntsville, AR, Kaitlyn (left) received a Bachelor's degree in Biochemistry and a minor in Honors Interdisciplinary Studies. Beginning in the Summer of 2016, Kaitlyn worked with Dr. Yarberry on chemical education research for two years. Kaitlyn completed her medical degree from UAMS in 2022 followed by a pediatric residency in Las Vegas, NV. Kaitlyn is picture here (left) with Dr. Yarberry (right).

2017 – Danica Ordoñez

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Coming from Little Rock, AR, Danica graduated with a degree in Biochemistry, and minors in Art and Interdisciplinary Studies. In the summer of 2016, Danica worked with Dr. Victoria Dunlap, a current faculty member specializing in biochemistry, where they studied the structural behaviors of the intrinsically disordered protein ligands of calmodulin. Danica is continuing her education at the University of Arkansas for Medical Sciences College of Medicine in the Fall of 2017. Danica is pictured here (left) on her graduation day with Dr. Dunlap (right).



2016 – Amber Rolland

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Originally from Monette, AR, Amber completed a PhD in Biochemistry in 2022 at the University of Oregon working for Jim Prell. She was selected as both a Dean's FirstYear Merit Award recipient and an Anderson Family

ARCS Scholar. Her research utilized native mass spectrometry to investigate the interactions and dynamics of membrane proteins and lipids. In the summer of 2016, Amber worked at the National Center for Toxicological Research through their Summer Student Research Program, where she participated in a project developing imaging mass spectrometry methods to study the distribution of chemotherapeutic drugs with cardiotoxic side effects in heart tissue. Amber is pictured here (right) with Patsy Manion (left), the late Dr. Manion's wife and an avid supporter of the UCA Department of Chemistry and Biochemistry. In 2022 she joined Albert Heck's lab at Utrecht University in the Netherlands as a postdoc to work on de novo sequencing antibodies purified directly from human donor samples



2015 – Sergio Perez Bakovic

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Sergio, who came to UCA from his home country of Bolivia, took a short break from his studies after receiving his undergraduate degree, working for a local orthodontist in Conway. He is currently pursuing graduate studies in chemical engineering at the University of Arkansas in Fayetteville. Sergio is pictured here (right) with Dr. Karen Steelman, his undergraduate research advisor and a former faculty member specializing in analytical chemistry.

2014 – Aaron Owen

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Hailing from Van Buren, AR, Aaron was a very active student in our department and president of his campus fraternity. Working for Dr. Don Perry in our department, Aaron's undergraduate research was on the infrared light absorption properties of gold nanoparticles, in order to apply them to potential environmental sensors.

Aaron completed his medical degree from UAMS in 2018. He is currently completing a residency in orthopedic surgery at the Mayo clinic in Rochester, MN.

2013 – Ryan Parker

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Ryan, a native of Heber Springs, AR, earned an M.A. in Chemistry from the University of Texas with the Brodbelt group, focusing on biological applications of mass spectrometry. Throughout his years in graduate school, he wrote a large collection of software for the analysis of mass spectral data utilized by the members of his lab. He now uses this hobby/skillset in his career as a software developer in the Dean's Office for the College of Natural Sciences at the University of Texas at Austin, where this photo was taken.

2012 – Venusa Phomakay

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Arriving at UCA from Alma, AR, Venusa continued her education by attending medical school at the University of Arkansas for Medical Sciences in the fall of 2012. During her four years in the School of Medicine, she participated in many activities on campus and in the community: serving on the UAMS Christian Medical Association leadership team, participating in medical missions in Guatemala two

years in a row, and volunteering at a student-run free clinic for underserved community members. She met her fiancé, Coy Lock, during her 2nd year at UAMS while volunteering at an applicant interview day. In May 2016, she graduated from medical school with Honors in Research and was coawarded the Faculty Key (given to the most outstanding senior student voted by the faculty). In July 2016, Venusa began her training as a Resident Physician in Memphis, TN. She plans to complete a combined residency in Internal Medicine and Pediatrics in 2020. She is pictured here with Dr. Robert Mauldin (right), former department chair and current faculty member specializing in analytical chemistry.



2011 – Brian Besel

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Immediately after graduation from UCA, Brian left his hometown of Rogers, AR for Fort Collins, CO, where he worked as a toxicologist for Rocky Mountain Instrumental Laboratory (known for running

tests for forensics and pharmaceutical companies). He later resigned to pursue a career in the classroom and is currently teaching chemistry at Fossil Ridge High School in Fort Collins. He received his Master's in Education from Colorado State University in May 2014. Brian is pictured here (middle) between Dr. Patrick Desrochers (left), inorganic chemist and current chair of the department, and Dr. Richard Tarkka (right), current faculty member specializing in organic chemistry.

