

College Chemistry Achievement Awards

February 24, 2021

The College Chemistry Achievement Awards are presented annually by the Chemical Society of Washington to outstanding seniors majoring in chemistry and biochemistry from each of the area colleges and universities.

<p>Ashleigh Bonanno St. Mary's College of Maryland Supervisor: Andy Koch Advisor: Jeff Byrd Sponsor: Kelly Neiles</p>	<p>It is our pleasure to nominate Ashleigh Bonanno for a Chemical Society of Washington College Chemistry Achievement Award. Ashleigh has displayed a consistent dedication for not just succeeding in her chemistry courses but truly making the material her own. This is no small accomplishment as she is working towards her Biochemistry major, Spanish minor, works as a Scribe for a local hospital and volunteers as an EMT at a local rescue squad. While taking a demanding course load and selflessly helping others with their medically related issues, Ashleigh also finds time to tutor students in biochemistry, biology and chemistry, and has also served as a teaching assistant for Organic Chemistry as well as a technology teaching assistant for General Physics when COVID-19 forced us to adapt to distance learning. Ashleigh is also conducting neuroscience research this year, looking at whether environmental enrichment reduces stress-induced reinstatement of morphine conditioned place preference. Ashleigh is a highly successful student who emulates the St. Mary's Way through her hard work and dedication to helping others achieve the high standards we set for our students.</p>
<p>Jonathan Harrison The Catholic University of America Supervisor: Dr. Greg Miller</p>	<p>The recipient of the College Chemistry Achievement Award for 2021 from the Catholic University of America is Jonathan Harrison. Jonathan will graduate from Catholic University in May with a double major – a B.S. in Biochemistry and a BA in Theology and Religious Studies - and a minor in mathematics. Maintaining a 4.0 GPA, he has pursued a rigorous schedule while finishing his biochemistry and theology degrees, working on research, and engaging in extracurricular activities. During the summer of 2019, he worked in the lab of Dr. Hanover at the National Institute of Diabetes and Digestive and Kidney Diseases at the NIH. There he assisted in determining the structure of O-GlcNAc modifying proteins. He has also worked for 4 semesters on research that he began during his sophomore year in the lab of Dr. Miller, a biochemist on the faculty of the CUA Chemistry department. Besides being the president of the Chemistry Club for the last two years, he has worked as a teaching assistant for general chemistry labs, an RA, a student minister, and a student leader for both weekly homelessness outreach and home-building trips through Habitat for Humanity.</p> <p>After graduation, Jonathan has accepted a position in the lab of Dr. Hinshaw in the National Institute of Diabetes and Digestive and Kidney Diseases through the Post-baccalaureate IRTA program at the NIH. There he will be working to understand the structure of dynamins and how their structure correlates to their diverse functions. After this post-baccalaureate program, Jonathan plans on applying for MD/PhD programs to become a physician scientist.</p>

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<p>Sam Kirby The George Washington University Supervisor: Dr. Cynthia S. Dowd</p>	<p>Sam Kirby is currently a senior at The George Washington University intending to graduate with a major in chemistry. Receiving the A.D. Britt Scholarship for both the summers of 2019 and 2020, he began research under the mentorship of Dr. Cynthia S. Dowd synthesizing prodrugs for inhibition of DXR in Plasmodium falciparum and Mycobacterium tuberculosis. In addition to his laboratory endeavors, Sam is a Nationally Registered Emergency Medical Technician. He volunteers for GWU's Emergency Medical Response Group where at least 40 hours a month are dedicated to treating and transporting GWU students, faculty, staff, and DC residents to the appropriate medical facilities. Sam also is an Emergency Department Technician at The George Washington University Hospital where he has spent over 1200 hours working with patients. In his time at GW, Sam has also served as the Risk Manager for the Sigma Chi Fraternity in addition to volunteering for the Huntsman Cancer Foundation.</p> <p>He has also served as Vice President, Treasurer, and Captain of the GWU's Men's Ice Hockey Team. In his free time, he volunteers for the local non-profit organization For Love of Children as part of the Neighborhood Tutoring Program where he works one-on-one with grade school students to improve their mathematical skills. Along with math tutoring, Sam tutors his peers at GWU in General Chemistry I/II, Organic Chemistry I/II, and Biochemistry. A few of his other hobbies include cooking, metal arts, and chess. In the future, Sam plans to attend medical school and pursue a doctorate in organic chemistry.</p>
<p>Wanqing Li Georgetown University Supervisor: Dr. Kaveh Jorabchi</p>	<p>It is my great pleasure to nominate Wanqing Li for this award. Wanqing is a biochemistry major at Georgetown University, and her academic performance in all aspects has been stellar, including a perfect GPA. Importantly, she has been a productive contributor to research in my group in the past two years. She secured two research fellowships (a Royden B. Davis Research Fellowship from Georgetown College Dean and a Zorbach Fellowship from the Chemistry Department) to devote her past two summers to research. She has worked on a wide range of problems from advancing forensic fiber analysis to developing new ionization chemistries for elemental quantitation of non-metals with mass spectrometry. The significance of her research contributions is evident from her co-authorship in our recent publication in the journal Analytical Chemistry and a second-authorship on a recently submitted manuscript. Wanqing also received the 2020 ACS Division of Analytical Chemistry Undergraduate Award. She has taken a holistic approach to solving research problems via both experimental work and quantum mechanical calculations. These efforts combined with majoring in biochemistry speak volumes of Wanqing's interests and capabilities in chemical sciences. Notably, Wanqing is an active member of our chemistry community and has devoted her time over weekends to tutoring in our chemistry club. She is a well-rounded emerging scientist and her recognition by this award is well deserved.</p>

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<p>Imani McDonald American University Supervisor: Monika I. Konaklieva</p>	<p>Ms. McDonald will graduate with a BS degree in biochemistry from American University in May 2021. Ms. McDonald is obviously excited about the field of medicinal chemistry as is demonstrated by her choice of a major during her undergraduate studies, as well as her involvement in projects in Dr. Konaklieva's laboratory. Ms. McDonald demonstrates the capacity and innate skills necessary for excelling in a graduate research program. She is an independent research student who shows a strong ability to master new material by working well with others and is well accepted and respected by her peers. Ms. McDonald will be an outstanding medicinal chemistry graduate student. She will be pursuing a Ph.D. degree in the field in a program of her choice. Some of her other achievements include: National Dean's List, Likins Scholarships award (University-wide), 2020-2021 and the ACS Division of Organic Chemistry Undergraduate Award, 2021 nominee.</p>
<p>Pavan Ravindra University of Maryland Supervisor: Pratyush Tiwary</p>	<p>Pavan Ravindra is an extraordinary student, pursuing double majors in biochemistry and computer science and doing research with Prof. Pratyush Tiwary. Pavan excelled in Dr. Tiwary's junior p-chem class as a sophomore and then joined his lab. He developed a new algorithm applying machine learning methods to molecular dynamics simulations. His "automatic mutual information noise omission" (AMINO) procedure uses on-the-fly clustering of order parameters to automate an enhanced sampling workflow, leading to a dramatic (10^4-fold) acceleration of simulations of rare events like protein-ligand dissociation. The work was published in a Royal Society journal with Pavan as first author, another paper appeared in J. Phys. Chem., and a third is in the works. Pavan has also completed a substantial portion of the graduate p-chem classes at UMD, leaving open the question of what courses he will have left to take when he enters graduate school.</p>

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<p>Jeremy Ridley Georgetown University Supervisor: Dr. Timothy H. Warren</p>	<p>It is my great pleasure to nominate Jeremy Ridley for this award. Jeremy is a chemistry major at Georgetown University, and his academic performance in all aspects has been stellar including his 3.89 GPA. Jeremy has done both experimental and computational work in my lab over the last 3 years, starting in the lab as a first semester undergraduate. Jeremy is now an honors program student in his last semester who is writing an honors thesis to detail his research.</p> <p>Jeremy has used a combination of experimental and computational methods to understand how a simple iron-containing molecule, ferrocene, release the chemical energy contained in ammonia, a plentiful chemical feedstock, to generate electricity without any carbon byproducts. He has studied approaches in the lab through synthetic chemistry and on through high level computational modeling to modify the iron catalyst to become more efficient. His efforts have enhanced our lab's understanding of this process, making important strides to learn new ways to use ammonia as a fuel.</p> <p>Jeremy is an active member of our chemistry community at Georgetown. He has been intensively involved our undergraduate Chem Club (AY19/20 Vice President and AY20/21 social coordinator) as well as in our undergraduate tutoring program. He has also been effective in sharing his science with less experienced undergraduate colleagues, encouraging them to become involved in undergraduate research. Jeremy is a well-rounded emerging scientist whose recognition by this award is well deserved.</p>
<p>Christopher Veatch George Mason University Supervisor: Dr. Jeffrey Moran Sponsor: Dr. Rebecca Jones</p>	<p>Christopher is an outstanding senior chemistry major at George Mason University. His performance and engagement in classes has been excellent. In Fall 2020, he was awarded a grant from the Undergraduate Research Scholars Program to perform research under the mentorship of Dr. Jeffrey Moran. His research presentation entitled "Fabricating and Optimizing Iron Nanorods for Controlled Navigation and Drug Delivery in Extracellular Matrices" received a top presentation honor at OSCAR's Virtual Celebration of Student Scholarship in December 2020.</p>

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<p>Cecelia Wood St. Mary's College of Maryland Supervisor: Geoffrey Bowers Advisor: Geoffrey Bowers Sponsor: Kelly Neiles</p>	<p>Cecelia (Cece) Wood is most deserving of a Chemical Society of Washington student award, exhibiting excellence in research and service/leadership. Cece has been engaged in formal undergraduate research examining reactions and dynamics at solid-fluid interfaces since her second semester at college and is the first author of a paper in Environmental Science and Technology Letters. During that time, Cece contributed to numerous research projects on our campus and during a Summer Undergraduate Laboratory Internship (SULI) at Pacific Northwest National Laboratory. Her SULI work examined reactions of supercritical carbon dioxide in thin water films on the surface of Mg/Fe silicates. More recently, she is conducting a self-designed research project examining the chemistry of wood fossilization and how organic-inorganic interactions contribute to the process, which she intends to present at the spring American Chemical Society National Meeting in April 2021. Cece has also distinguished herself in service to our department and campus communities, including leadership roles as a research group peer mentor, lead mentor in introductory chemistry, and as president of our student ACS chapter. Cece also regularly contributes to recruiting events and has served as a teaching assistant or tutor in numerous other courses. Cece backs up all this outstanding work outside the classroom with great coursework, earning top marks in many of her courses. She also represents the liberal arts ideal through her extensive coursework in art history. All told, Cece is a once-in-a-decade superstar that we are pleased to nominate for this award.</p>
<p>Shelbi Wuss American University Supervisor: Monika I. Konaklieva</p>	<p>Ms. Wuss will graduate with a BS degree in biochemistry from American University (AU) in May 2021. Ms. Wuss joined Dr. Konaklieva's research group in the Spring of 2019. For her project on the synthesis of fragment-based agonists of a Lipoprotein lipase (LPL), she was awarded NASA, Likins (University wide), A. Schwartz (Department of Chemistry, AU) Summer Research Scholarships, and she has been nominated as an AU Goldwater finalist for 2020 competition. She has demonstrated a high degree of independence and persistence while working on this project. Ms. Wuss demonstrates the capacity and innate skills necessary for excelling in a graduate research program. She is self-motivated and driven, and she can handle failure. Ms. Wuss approaches her academics in genuine interest in learning. She embodies the ideal nature of someone truly devoted to immersing herself in and learning about the world around her, and she does so every day with a level of optimism seldom seen in most people. Ms. Wuss has been accepted in prestigious medical programs.</p>