



CHICAGO STATE
UNIVERSITY

Biological Sciences

www.csu.edu

Newsletter

Feature Story

Welcome to the 2022-2023 academic year!

We hope you had an enjoyable summer and are ready to conquer the Fall semester.

Chairperson's Corner

Welcome to the Fall 2022 semester. I hope you had a restful summer. I am excited to start the new academic year with you. I want us to embrace the tagline: "**curiosity leads us.**" It is my hope that curiosity will lead the way as we engage in new ways of doing things so that together we continue to build a department community that foster growth, positive and possibility mindset. Buckle

up and let us start this exciting journey. I look forward to a fun-filled learning adventure whereby we explore new knowledge and build skillsets that contribute value to society.

The department graduated eight students with B.S and one with M.S. in the 2021-2022 academic year (page 2). I am deeply grateful to our dedicated faculty and staff who work tirelessly, to ensure that students build the foundation knowledge and skillsets they need to succeed after graduation.

The student club, Biological Society, organized many events throughout the year (page 5). We encourage all students to become a part of this club to feel a sense of belonging and engage in community development. Visit the department's website news and events site to learn of student leaders (<https://www.csu.edu/bioprehealth/news.htm>).



Announcements:

Graduation application deadline for undergraduate and graduate students is **September 30, 2022.**

Apply to Scheinbuchs Scholarship: The deadline is September 23, 2022, at 4:00 p.m. The requirements are a minimum cumulative grade point average of 3.0 on a 4.0 scale; has completed one full semester at CSU; can demonstrate a commitment to scholarship and achievement in Biology; are willing to volunteer as a participant in university activities; has not received the award more than once. For additional information, please contact Dr. Andrew Maselli, amaselli@csu.edu for further information.

Apply for paid research opportunities as an LSAMP Scholar:

(<https://www.csu.edu/ILSAMP/scholars.htm>)

Contact Dr. Christopher Botanga, cbotanga@csu.edu.

Follow the department on social media:

Twitter (@ChicagoStateBio),

Instagram (chicagostatebio)



Announcements continued:

Are you interested in a career in teaching? There is a shortage of Science Teachers in Illinois. Contact Dr. Karel Jacobs, kjacobs@csu.edu for more information.

Graduate students interested in graduating at the end of Fall 2022 need to upload thesis to ProQuest by October 28, 2022. Contact Dr. Erhart, ma-erhart@csu.edu for more information.

Awards

Dr. Julian Scheinbuks Scholarship

Dr. Julian Scheinbuks was a part of the Department of Biological Sciences faculty at CSU from 1989-2003. His great love was teaching and working with students. He taught various biology courses for 13 years. In 2003, he was appointed the Director of Distance Learning. Under his leadership, a small and developing operation was transformed into a successful department within the Library and Instruction Services. Upon Dr. Scheinbuks passing, he donated \$1 million dollars towards student scholarships for the department. As a memorial to Julian, the campus community has planted a native burr oak tree. A leaf from that tree is the symbol of the Scholars Program. Every year, the department gives scholarships to students through an application process, applicants are awarded based on academics and service.

Scheinbuks Scholarship Recipients 2021-2022

(Undergraduates \$2,000 each)

Shalomeck Johnson

London Nelson

Stephanie Manning

Korvell Russell

Adaeze Olikagu

Dominick George

Taneisha Griggs

Graduate Students:

Steven Philpott

Chanel Norphlet



Congratulations 2021 to 2022 Graduates

Fall 2021: BS: London Nelson
 MS: Uzoma Emeakoroha

Spring 2022: BS: Justin Minor
 Schaebrion Drain
 Mahtyerra Simmons
 Darcae Holmes
 Diana Peeples
 Shalomeck Johnson
 Lashay Funches

Whereabouts of Class of 2021-2022

Darcae Holmes - After completing a summer internship at Northwestern University Core Facility, began a full time position at the facility starting in August 2022.

Justin Minor - Began a full time position as a Quantitative Microbiologist with Merieux NutriSciences in Crete, IL.

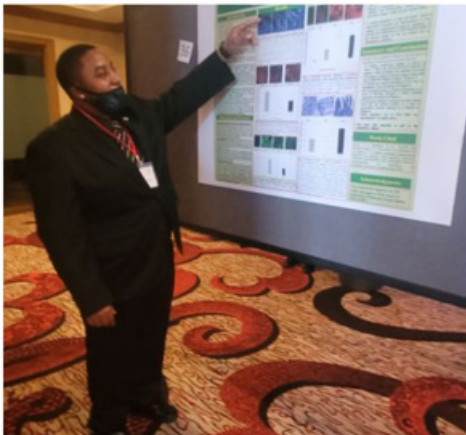
Shalomeck Johnson - Began the Doula Training Program with Gifted Hands International. She hopes to apply to the Masters Program at Bastyr University after receiving her certification from the Doula Training Program.

Uzoma Emekoro - Started his fourth year at CSU College of Pharmacy,

Undergraduate Corner and Biological Society Events STEM Symposium Attendance and Presentation



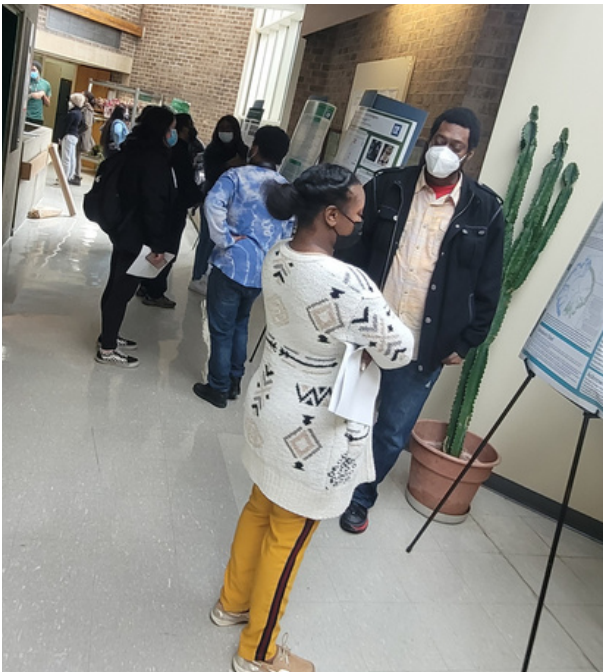
The LSAMP Symposium was held February 2022. It was the first time since COVID-19 that the students had a chance to present their research work and interact with one another.





Earth Week Activities

During Earth Week the Biological Society organized several activities: our students transplanted plants in the greenhouse, prairie cleanup and student presentations, and invited speakers. All of this was done in Williams Science Center.





Off-Campus Summer Internship Participants



Dominick George Summer 2022 Research Presentation
The presentation was on "*The Density of Nuclear Pores in Adult Mouse and Macaque Cortex*," Dominick S. George, Narayanan "Bobby" Kasthuri - Department of Neurobiology, University of Chicago, Chicago, Illinois 60637

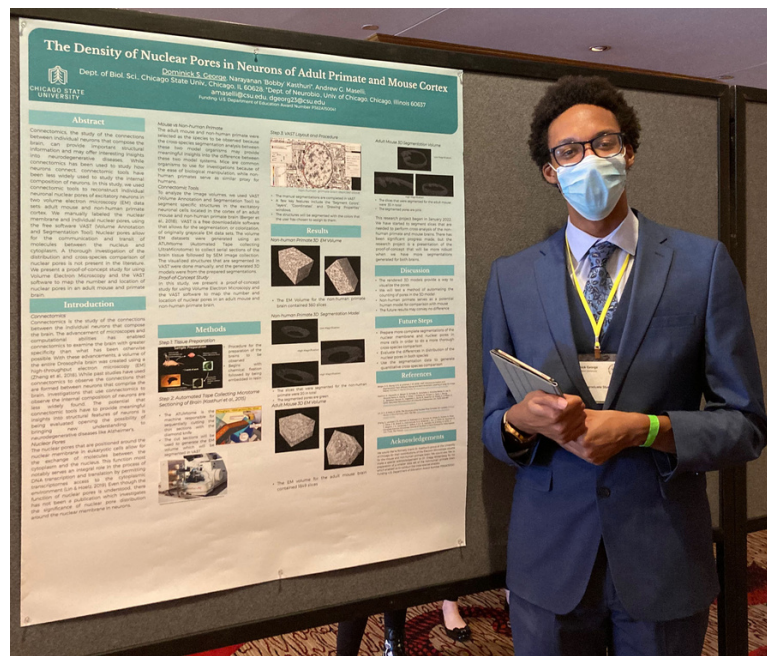
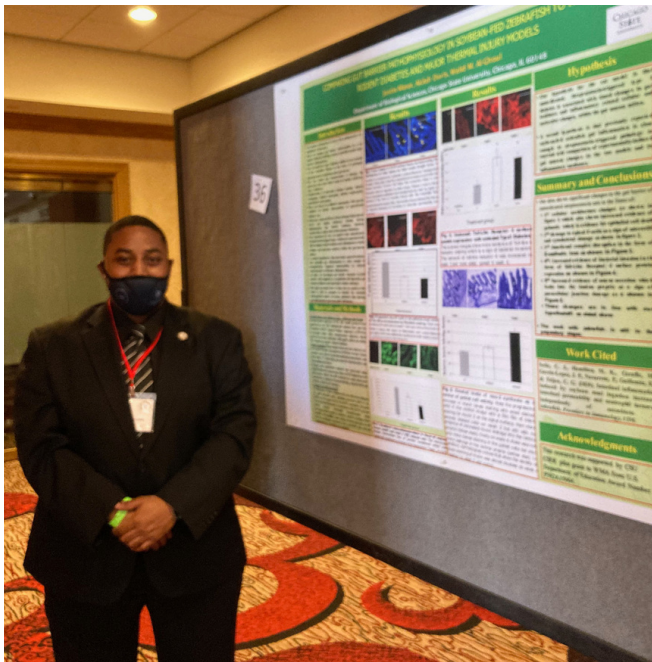


Josue Puentes Summer 2022 Illinois College of Optometry. After his summer Josue received a certificate for completing the program and received a white coat.



Korvell Russell, Darcae Holmes (Graduated May 2022), Mahtyerra Simmons (Graduated May 2022), and Ebony Banks hold certificates for completing an Internship at Northwestern University this summer.

Research Presentations (continued)





Plant Sale



The Biological Society hosted a plant sale which was held outside the Williams Science Center (above picture). Two individuals came to the greenhouse (mother and daughter) and bought plants (picture to the right).





Arbor Day



President Zaldwaynaka "Z" Scott joined the students and faculty as we celebrated Arbor Day. Our own Dr. Karel Jacobs facilitated the activities on that day which included doing tree plantings.



CHICAGO STATE
UNIVERSITY

Biological Sciences Newsletter

www.csu.edu

Forest Preserves of Cook County

Greetings CSU,

I just wanted to give a special thanks to your biology team. We were so enthused by the activities you all had laid out for us to do. Some of the students didn't want to leave and wanted to learn more. We had so much positive feedback from the students that even for next year I believe we will do this again for the next group of Ambassadors.

Please see attachments of pictures we took.

Again, Thank you all for putting on a nice tour for our youth group and we look forward to working you all in the future:)

~Kelvin

Kelvin Boyd
Program Specialist (Outreach)

Conservation and Experiential Programming Department





CHICAGO STATE
UNIVERSITY

Biological Sciences Newsletter

www.csu.edu

Health Sciences Summer Program



Ms. Kelli Simmons, Project Coordinator in the College of Health Sciences brought over a number of students to learn about plants in the Greenhouse as part of their summer program.



Faculty Accomplishments

Continuing Extramural Grants

Christopher Botanga (Senior Personnel, NSF Award # 2119930), Karl Reid (PI), Co-PIs, Richard Harris, Claire Duggan, Michael Silevitch, Karen Horting. NSF INCLUDES Alliance: Engineering PLUS (Partnerships Launching Underrepresented Students). \$10 Million, CSU's Portion, \$901,588.00. **Aug 1, 2021 – July 21, 2026.**

Christopher Botanga (PI, NSF Award #2129705). The Lois Stokes Alliances for Minority Participation 2021 Principal Investigators/Project Directors Meeting. \$215,422. **July 19, 2021 – July 31, 2022.**

Murray, M. H. (Principal), Magle, S. (Co-Principal), German, D. (Co-Principal), Santymire, R. M. (Co-Principal), **de la Sancha, N. U.** (Supporting), Grewe, F. (Supporting), "CNH2-S: Impacts of Urban Rats and Rodent Control on Public Health and Urban Wildlife Conservation," Sponsored by National Science Foundation, Local, \$680,466.00. **(January 1, 2020 - January 1, 2023)**

Internal Pilot Grants Received

Erhart, M. (2022) Assessing the impact of host genotype, environment, and diet on the gut microbiome. 2022. CSU CSER pilot grant. \$4,950.

Walid Al-Ghoul (2022) Pilot grant: Two CSU CSER pilot grants-U.S. Department of Education Award Number P382A15004. Amount: ~ \$ 9,000 Dates: **Jan 2020**-present (extended due to pandemic).

Grants Submitted

Rust, M. (Principal), Gardel, M. L. (Co-Principal), Kuehn, S. (Co-Principal), **McDonough, M. M.** (Co-Principal), Teasdale, R. M. (Co-Principal), **de la Sancha, N. U.** (Supporting), (2022) "Biology Integration Institute: Adaptation of Life to Variable Environments," Sponsored by National Science Foundation, Federal, \$1,091,116.00.

Publications

McDonough M. M., Ferguson AW, Dowler RC, Gompper ME, Maldonado JE (2022) Phylogenomic systematics of the spotted skunks (Carnivora, Mephitidae, Spilogale): Pleistocene climate change as a major driver of diversification. *Molecular Phylogenetics and Evolution*, 167: 107266.

de la Sancha, N.U., S.A. Boyle, N.E. McIntyre. (2021). Identifying structural connectivity priorities in eastern Paraguay's fragmented Atlantic Forest. *Scientific Reports* 11, 16129 DOI: 10.1038/s41598-021-95516-3.



Faculty Accomplishments (continued)

Publications

McDonough M. M., Ferguson AW, Dowler RC, Gompper ME, Maldonado JE (2022) Phylogenomic systematics of the spotted skunks (Carnivora, Mephitidae, Spilogale): Pleistocene climate change as a major driver of diversification. *Molecular Phylogenetics and Evolution*, 167: 107266.

de la Sancha, N.U., S.A. Boyle, N.E. McIntyre. (2021). Identifying structural connectivity priorities in eastern Paraguay's fragmented Atlantic Forest. *Scientific Reports* 11, 16129 DOI: 10.1038/s41598-021-95516-3.

de la Sancha, N.U., S.A. Boyle, N.E. McIntyre, D.M. Brooks, A. Yanosky, E. Cuellar Soto, F. Mereles, M. Camino, R.D. Stevens. (2021). The disappearing Dry Chaco, one of the last dry forest systems on earth. *Landscape Ecology*. <https://doi.org/10.1007/s10980-021-01291-x>.

Weems, E.I., **N.U. de la Sancha**, L.J. Anderson, C. Zambrana-Torrel, R.P. Ferraris. (2021). Centering microbes in the emerging role of integrative biology in understanding environmental change. *Integrative and Comparative Biology* <https://doi.org/10.1093/icb/icab047>.

Presentations

TURBIARZ, S., WILDENBERG G., LI H., KASTHURN. B. I, **MASELLI A.** (2021 November) Connectomes of organelles in developing and adult mouse brains. Society for Neuroscience Annual Meeting. Virtual.

Berry, BC, **Jacobs K**, Shahid M, **Swier K**, **Al-Ghoul WM.** 2022. The role of mitochondrial tafazzin, cardiolipin, and bax dynamics in the intrinsic apoptotic pathway. 2022 Illinois LSAMP Symposium & Student Research Conference in STEM. Rosemont/Chicago O'Hare, IL

George, DS, Kasthuri NB, **Maselli AG.** 2022. The density of nuclear pores in neurons of adult primate and mouse cortex. 2022 Illinois LSAMP Symposium & Student Research Conference in STEM. Rosemont/Chicago O'Hare, IL

Holmes, D & **McDonough M.** 2022. Mapping a mutation for toxin resistance on owl phylogeny. 2022 Illinois LSAMP Symposium & Student Research Conference in STEM. Rosemont/Chicago O'Hare, IL

Mahtyerra, S, Aremu A, Bennett G, Hobbs S, Perkins T, Stewart L, **Swier K.** 2022. A role for the *adprt1b* gene in chemotaxis by *Dictyostelium discoideum*. 2022 Illinois LSAMP Symposium & Student Research Conference in STEM. Rosemont/Chicago O'Hare, IL

McGill, AS & **Erhart MA.** 2022. Assessing the role of Retrotransposition of Endogenous Retrovirus sequence (ERVs) mutations events in the mouse genome. 2022 Illinois LSAMP Symposium & Student Research Conference in STEM. Rosemont/Chicago O'Hare, IL

Faculty Accomplishments (continued)

Presentations

Minor, J, Davis A, **Al-Ghoul WM**. 2022. Comparing gut barrier pathophysiology in soybean-fed zebrafish to that in rodent diabetes and major thermal injury models. 2022 Illinois LSAMP Symposium & Student Research Conference in STEM. Rosemont/Chicago O'Hare, IL

Norphlet, C & **Azim A**. 2022. Examining interactions between mutated G93A superoxide dismutase and wild-type ubiquilin-2. 2022 Illinois LSAMP Symposium & Student Research Conference in STEM. Rosemont/Chicago O'Hare, IL

Olikagu, A, Ferguson A, **McDonough M**. 2022. Tissue tropism of coronaviruses in two Angolan bat species: *Rhinolophus cf.denti* and *Hipposideros cf. ruber*. 2022 Illinois LSAMP Symposium & Student Research Conference in STEM. Rosemont/Chicago O'Hare, IL

Russell, K, Ferguson A, McDonough M. 2022. Molecular identification and phylogenetic position of coronavirus positive bats and their associated viruses collected in Angola. 2022 Illinois LSAMP Symposium & Student Research Conference in STEM. Rosemont/Chicago O'Hare, IL

Smith, Q & **Gana, JA**. 2022. Exploring propagation conditions that influence root growth behavior in greenhouse grown *Tradescantia zebrina* plants. 2022 Illinois LSAMP Symposium & Student Research Conference in STEM. Rosemont/Chicago O'Hare, IL

Gana, JA. 2022. Student Sense of belonging in STEM. Presentation at the Department of Biological Sciences Seminar Series. March 09, 2022

Yukto Tsang. 2022. Engaging students in the classroom. Presentation at the Department of Biological Sciences Seminar Series. March 30, 2022

Other Faculty and Staff Activities

Dr. Botanga, as Co-PI and Project Director, organized a successful 2022 Illinois LSAMP Symposium and STEM Student Conference held on February 25 & 26 at Rosemont/Chicago O'Hare, IL.

Dr. McDonough served as panelists for the NSF BRC-BIO: Building Research Capacity Panel in March 2022.

Ali A, Gana JA, Maselli A, Park BG, Sims P. (July, 2022) Urban Environment-Campus Biodiversity. A Field Trip host for high school, college students, and workers of the Summer Internship Program at the Forest Preserves of Cook County.

Resignations:

Dr. Noe de la Sancha - is currently a Professor at DePaul University.
Dr. Ashraf Ali - is currently a Professor at Malcolm X College.

Appointments:

Dr. Yukto "Ty" Tsang - came to CSU as an adjunct teaching Human Functional Anatomy and Human Functional Anatomy Supplemental Lab. Recently Dr. Tsang was hired as a Full-Time Lecturer not only teaching the two Zoology courses, but he is also teaching Biology general education courses.

Graduate Corner

Proposal Defenses:

Akilah Davis

*Analysis of (1,3;1,4)- β -D-Glucan Content in Barley (*Hordeum vulgare L.*) Endosperm*

Michonne Berry

The Role of Mitochondrial Tafazzin, Cardiolipin and Bax Dynamics in the Intrinsic Apoptotic Pathway

Progress Report:

Richard Brown

Determining the Role of Adprt1b in Phagocytosis and Chemotaxis

Greenhouse Volunteer Corner

Our two volunteers in the greenhouse are retired school teachers Katy and Cynthia!

