



CHICAGO STATE
UNIVERSITY

Biological Sciences

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Newsletter

Welcome
FALL 2024



Chairperson's Corner



Announcements

Welcome to the Fall 2024 semester. I hope you had a productive summer. I strive to create a welcoming and inclusive environment in the department that is characterized by cheerfulness, collaboration, and community.

Our department graduated 11 students with B.S. and 5 with M.S. in the 2023-2024 academic year (page 3). A large number of students participated in on and off campus summer STEM programs at various institutions including Northwestern University, University of Chicago, Purdue University, and the Field Museum, and Chicago State University (page 4).

One of our recent alumni, Adaeze Oligaku (2023), was admitted to 13 medical schools, and she chose the University of Pennsylvania to attend starting summer 2024 with all tuition expense paid for the four years program.

During the CSU Spring Honors Convocation, many biology students were recognized for high academic achievements including the University Outstanding Senior Scholar (Vivian Cox) and the Outstanding Junior Award (Valeria Vizcaino).

Graduate student Angelica Bahena won \$2,000.00 research presentation award from the 2024 American Society of Mammalogist Meeting held in Boulder CO, in June (7-11).

Our dedicated faculty and staff were extremely productive, receiving major extramural grant awards, published journal articles along with published abstracts with students that lead to presentations at scientific conferences (Page12-14).

The student run club, The Biological Society, participated in a number of activities throughout the year. I encourage all students to become active members in the Biological Society and take advantage of leadership and service opportunities as resume builders. Visit the department's website news and events site to learn of student leaders (<https://www.csu.edu/bioprehealth/news.htm>).

Graduation application deadline for undergraduate and graduate students is **September 27, 2024**.

Apply to Scheinbuchs Scholarship:

The deadline is September 27, 2024, at 5:00 p.m.

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.



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 Biology student scholarships for distance learning innovation. 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 merit based scholarships to students through an application process, applicants are awarded based on academics and service.

Scheinbuks Scholarship Recipients 2023-2024 **\$2000/award**

Vivian Cox
Luis Garcia
Denesha Gorman
Madalyne Jaurez
LaGail Jennett
Trinity Thomas
Valeria Vizcaino



Congratulations 2023 to 2024 Graduates

(BS Biology)

Fall 2023

1. Leonel Loeza
2. Alayjah Harshaw
3. Quiana Smith

Spring 2024

4. Ebony Banks (BIOP)
5. Kendra Chambers (BIOL)
6. Cara Jeffries (BIOL)
7. Tori S Reynolds-Pollard (BIOL)
8. Madalyn L Juarez (BIOP)
9. Enissa McCoach (BIOP)
10. Anastasia Straw (BIOP)

Summer 2024

11. Luis Garcia

(MS Biology)

Fall 2024

12. Nicholas L Moody (BIOL)
13. Richard R Brown (BIOM)
14. Akilah Davis (BIOA)

Spring 2024

15. Ashraf Ali (BIOA)

Summer 2024

16. Michonne Berry (BIOM)

Whereabouts of Class of 2023-2024

Richard Brown, MS 2024, Research Laboratory Technician at Northwestern University

Michonne Berry, MS 2024, Adjunct Faculty at Chicago State University

Ashraf Ali, MS 2024, Tenure Track Faculty at Malcom X Chicago City Colleges

Luis Garcia, BS 2024, Research Lab Technician, Northwestern University

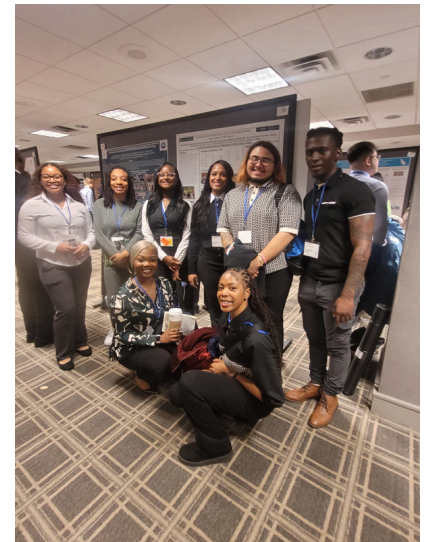
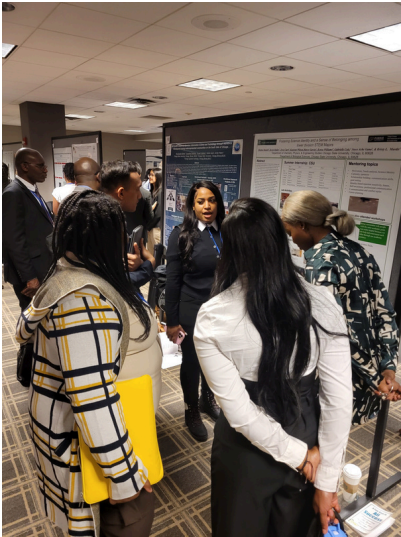
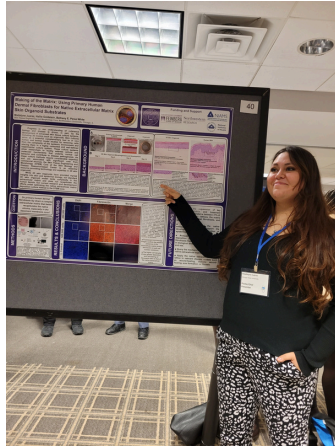


Undergraduate Students Engaged in SUMMER 2024 Programs

Festus Asante	SLOAN Cohort2 CSU-Purdue University
Nani-Marie MacFadden	SLOAN Cohort2 CSU-Purdue University
Veronica Coney	SLOAN Cohort2 CSU-Purdue University
Zyra Clark	Northwestern University Core Facility
Deja Louis	Northwestern University Core Facility
Cara Jeffries*	Northwestern University Core Facility
Trinity Thomas	Northwestern University Core Facility
Essence Jones	Northwestern University Core Facility
Luis Garcia*	Northwestern University Core Facility
Madalyne Juarez	Northwestern University-A H A
Vivian Cox	IAMABLE-VA Hospital
Valeria Vizcaino	IAMABLE-MCAT PREP
Keenah Moncreace	IAMABLE-VA Hospital
Denesha Gorman	University of Chicago
Lisa Daniels	University of Chicago - Course
Bryonna Jackson	CSER-Field Museum (McDonough)
Daisy Hernandez	CSER-Field Museum (McDonough)
Julianne Arballo	CSER-Field Museum (McDonough)
Dakota Bankole	CSER-Field Museum
Kaylynn Wilson	CSER-Field Museum
Kelsey Burnett	CSER-Field Museum
Yolanda Torres	CSER-CSU LAB (Swier)
Annwhar Sefah	CSER-CSU LAB (Swier)
Oluchukwu Akujieze	CSU-Biological Sciences Department
Adaria Blackwell	CSU-Biological Sciences Department



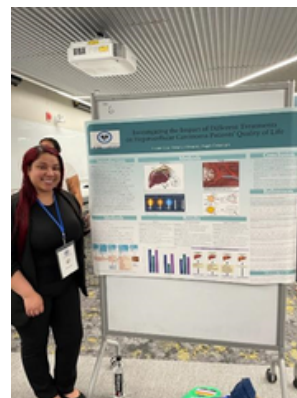
STEM Conference Attendance and Presentation



The LSAMP Symposium was held February 2024

Dr. McDonough and students attended the Annual 2024 American Society of Mammalogist Meeting held in Boulder CO in June (7-11).

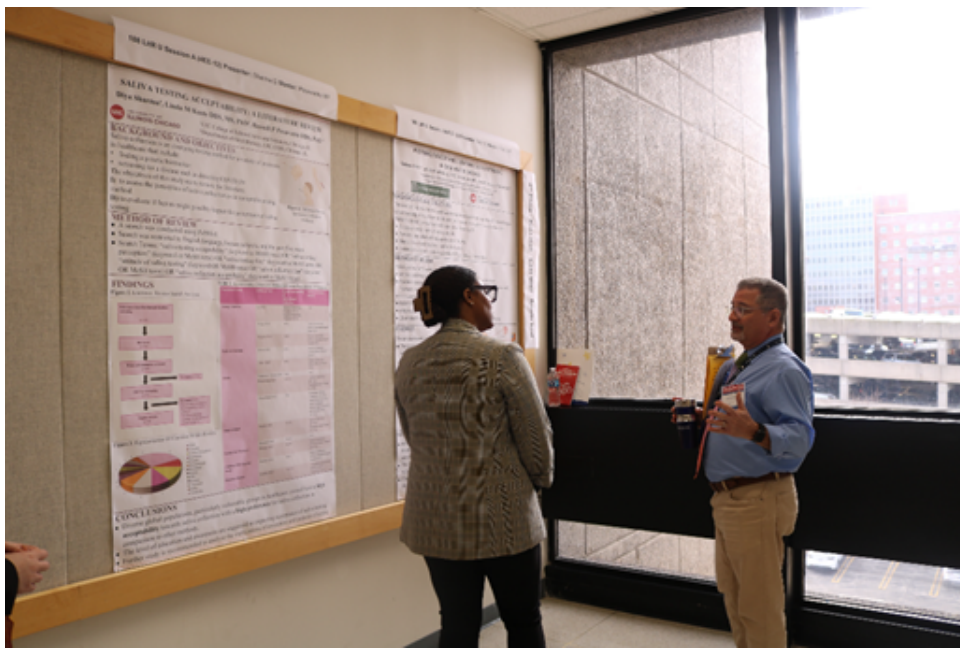
Angelica, graduate student, won \$2000 research award for presentation.



Vivian Cox presented a poster (winning 1st Place) at the IAMABLE Foundation 7th Annual Chicago Health, Medical and Law Careers Citywide Student Conference.

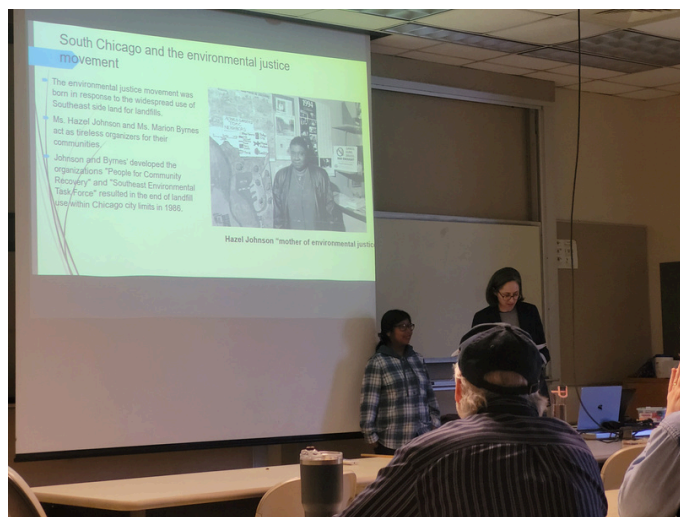


Presentation



LaGail Jennett and Quiana Smith presented at the UIC College of Dentistry conference 2024. LaGail won first place award for her presentation.

Earth Week Activities



During Earth Week, the Biological Society engaged in the removal of invasive plant species from the CSU Prairie, created window art to mitigate deaths from migratory birds, and learned about environmental justice initiative by Hazel Johnson, on the Southside of Chicago



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Arbor Day



Past interim provost (Dr. Roundtree) and new provost (Dr. Feist-Price) joined students and faculty as we celebrated Arbor Day. The yellow buckeye tree we planted was dedicated to our recently retired faculty Dr. Karel Jacobs, who facilitated initiated the Arbor Day on the CSU campus for almost two decades.



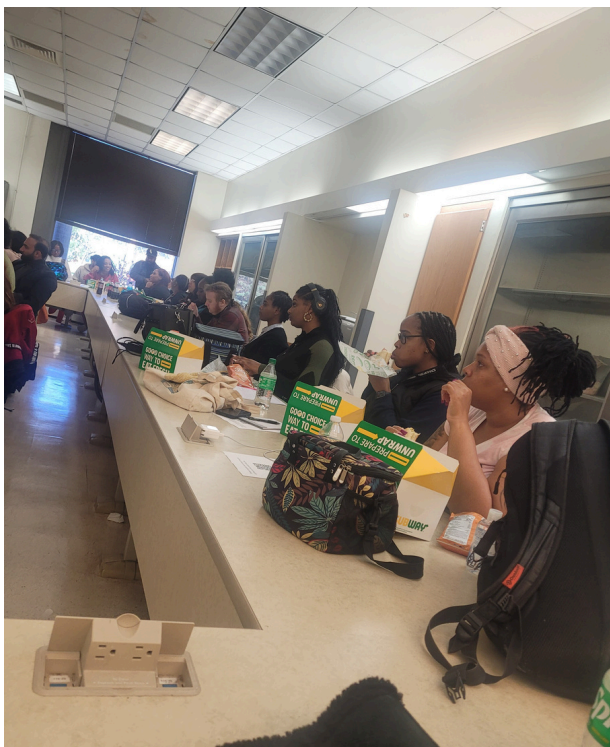
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Career Readiness: Abbvie Team





Career Readiness:



Purdue University Faculty, including Dr. Stephanie Gardner led a workshop on successful internship application process



Dr. Molly McDonough and former and current biology students at the Field Museum



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Graduate Student Corner

Al-Ghoul W (Chair), Karel Jacobs, Mohd Shahid, and Kevin Swier were **Michonne Berry Master's** Thesis Committee under whose guidance led to thesis defense in December 2023 and submission to ProQuest in the summer 2024.

Thesis Title: A Study on Apoptosis: The Implication of a siRNA Tafazzin Knockdown in vitro and an Undergraduate Class Application Seeking Improvements in Pedagogy

Botanga C. (Chair), Karel Jacobs, and Andrew Maselli were **Akilah Davis Master's** Thesis committee under whose guidance led to thesis defense and submission to ProQuest on October, 2023.

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

Gana J.A. (Chair), Walid Al-Ghoul, and George Smith Jr. were **Nicholas Moody's master's** Thesis Committee members under whose guidance led to thesis defense and submission to ProQuest on October 2023.

Thesis Title: Exploring Polycystic Ovary Syndrome in African American Women.

McDonough M. Major advisor for CSU Masters student **Angelica Bahena**.

Thesis Proposal Defense. January 2024.

Title: Population Structure and Dynamics of *Peromyscus leucopus* on the South Side of Chicago

McDonough M. Major advisor for CSU Masters student **Angelica Bahena**.

Thesis Progress Report Department Seminar. April 24, 2024.

Thesis Title: Population Structure and Dynamics of the white-footed mouse on the South Side of Chicago

Maselli A. (Chair) Mell Sabella, and Kevin Swier were Dr. **Ashraf Ali's Master's** Thesis Committee under whose guidance led to thesis defense and submission to ProQuest in April 2024.

Thesis Title: The Association Between the C-Terminal Fragment of Human T-Plastin and Hirano Body Formation and Concept Map Use Effectiveness in Teaching Biology Courses



Faculty Accomplishments

Published Articles

Abrahams, D., Ibrahim-Hashim, A., Ackerman, R. S., Brown, J. S., Whelan, C. J., **Garfinkel, M.** B.,Gatenby, R. A., & Muncey, A. R. (2023). Immunomodulatory and pro-oncologic effects of ketamine and isoflurane anesthetics in a murine model. PLOS ONE, 18(10).

<https://doi.org/10.1371/journal.pone.0292492>

Garfinkel, M., Belaire A, Whelan C, Minor E. (2024). Wildlife gardening initiates a feedback loop to reverse the “extinction of experience.” Biological Conservation 289:110400. Elsevier BV. <https://doi.org/10.1016/j.biocon.2023.110400>

Jannesar M, Seyedi SM, **Botanga C** (2024) Cross talk between long non-coding RNAs and miRNAs regulate transferase activity in response to salt stress in pistachio (*Pistacia vera* L.). Plant Stress. <https://doi.org/10.1016/j.stress.2024.100474>



Faculty Accomplishments

Grants Awarded and Submitted

CSU faculty members Dr. Christopher Botanga and Dr. Obayed Raihan and Partners at Northwestern University Feinberg's School of Medicine were awarded \$15 million grant from the American Heart Association to study heart disease in inflammation.

Dr. Botanga received the following grant,

Title: Conference: 2024 & 2025 NSF Louis Stokes Alliances for Minority Participation (LSAMP) Stakeholders Convenings.

Amount: \$\$1,154,768.00

Time : July 2024 to 2025

Dr. Botanga received the following grant,

Title: LSAMP National Coordination Hub: Cultivating Holistic and Inclusive Dimensions to Broadening Participation in STEM.

Amount: \$3 million

Time: 2024 to 2027

Dr. Maselli and collaborators at the University of Chicago received an NIH grant

Title: NIH "BRAIN CONNECTS: Photoemission Electron Microscopy for Connectomics"

Amount: \$4.8 million

Time; 2024 to 2027

Dr. Megan Garfinkel submitted an NSF research grant application on July 01, 2024. Title: Examining the role of wild birds in urban agriculture: balancing ecosystem services with food safety risks. Amount. \$499,363.00. This is a three years grant if funded.

Dr. Botanga submitted an NSF Human Resource Development and Training grant application on June 24, 2024. Title: BD-Master's: Illinois LSAMP at Chicago State University. Our faculty who contributed research summaries to this grant are Drs. Botanga (PI), Erhart (Co-PI), Attele (Co-PI), Gana, and Garfinkel. Amount \$597,000.00. This is a three years grant if funded.

Dr. Gana contributed as a SENIOR KEY PERSON to an NIH instrumentation grant application submitted by the CPE department on May 31, 2024. Title: Chicago State University Enhances Public Health and Education with Agilent GC-MS/MS. Amount 249,981.91.

Dr. McDonough five years NSF Career grant was renewed for the second year.

Dr. Mardis (PI) Dr. Gana (co-PI) and collaborators at Purdue University SLOAN Research Foundation grant that was renewed for the second year (2022 to 2024).



Faculty Accomplishments

Other Faculty and Staff Activities

Dr. Botanga was a panelist (October 6th) at the 2023 CREA Conference. He (and his Co-Panelists) talked about an abstract titled, Broadening Participation among Underrepresented Minorities in STEM: A Systemic Approach.

Dr. Botanga accepted an invitation to serve on the External Advisory Board (EAB) for a \$50 million phase one funding by the National Science Foundation (NSF) & the Simmons Foundation awarded to Northwestern University and University of Chicago to establish a new national research institute whose mission is to catalyze greater application of theory and mathematics to fundamental biological research.

Dr. Al-Ghoul. served as a Panel member of the Illinois Articulation Initiative (IAI) Biology Majors attending Panel Meetings.

Dr. Gana JA. served as a Panel member of the Illinois Articulation Initiative (IAI) General Education Life Sciences Panel Meeting on November 2023 and April 2024 .

Dr. Gana JA. served as External Reviewer for a PhD Dissertation at the University of West Indies, Trinidad/Tobago in December 2023.

Dr. Gana JA. completed and submitted Program Review Report in December 2023 and subsequently presented the report to the University Program Review Committee in January 2024.

Gana, JA attended and participated at the AAAS:SEA Change & Equitable Pathway Partners Program Joint Conference in Washington D. C. on October 18 to 20th. This conference focused on strategies to identify and overcome systemic barriers in institutions of higher education.

Molly McDonough was a guest speaker for the panel discussion "How blood sustains us all" moderated by Dr. Mikhail Varshavski ("Dr. Mike") at the Field Museum on Saturday 28 October 2023. Panel also included Dr. Maureen Turcatel (Field Museum) and Dr. Alex Carterson (DVP of Medical, Clinical, and Scientific Affairs at Abbott) to discuss blood, blood donations, and blood feeding animals (to highlight new exhibit: Bloodsuckers: Legends to Leeches).

On 21 October 2023 from 9 am - 1 pm, Molly McDonough and team met with 17 CSU Upward Bound high school students to explain local fieldwork related to the CAPTURE project (Calumet Animal and Pathogen Training Urban Research Experience). This project (supported by the Walder Foundation) monitors City Parks and Forest Preserves in Chicago's South Side in order to track bacterial pathogens, including the bacteria that causes Lyme Disease. Students learned how to identify local ticks using microscopy, how to identify species using molecular techniques, and how camera traps are used to survey nocturnal animals. McDonough was joined by Field Museum Collections Manager of Mammals, Dr. Adam Ferguson as well as one current CSU biology student (Vivian Cox), three recent CSU graduates (Adaeze Olikagu, Laura Giron, and Darcae Holmes), as well as an incoming undergraduate (Daisy Hernandez).

The department hosts about 200 middle and high school students on campus tours. Dr. Maselli, Dr. McDonough, Mr. Loeza, Mr. Park, Dr. Tsang, and Dr. Gana engaged students at the various core facilities (SEM, Cadavar, and Greenhouse, Computer Room/bioinformatics).

Dr. McDonough and CSU Undergraduate Vivian Cox spent winter break 2023 at Washington, D.C. to sample rodents from the National Museum of Natural History. These samples will be used in Dr. McDonough's ongoing research on comparative genetics of orthopoxviruses (e.g., Monekypox, Alaskpox, and Gerbilpox) funded by the National Science Foundation.

Retirements:

Dr. Karel Jacobs retired on December 31, 2023 after 19 years at CSU

Dr. Swier retired on August 15, 2024 after 27 years at CSU



Appointments:

Dr. Sumit Saurabh was appointed as a tenure track assistant professor of cell biology starting on August 15, 2024

Resignations:

Dr. Yukto "Ty" Tsang - resigned his position as a Full-Time Lecturer three to accept a tenure track position at Morton Community college

Newsletter

SLOAN grant activities with students (Field Trips to STEM Institutions)





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Health Professions Explorers Summer CAMP



The department engaged students in the Health Professions Explorers Summer Camp 2024 with human anatomy, microscopy of cell reproduction, and greenhouse grown plants. We thank Dr. Yukto Tsang, Mr Byeong Gyu Park, and Mr Leonel Leoza for leading the various activities.



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Summer Internship/Program Participants



Vivian Cox



Denesha Gorman



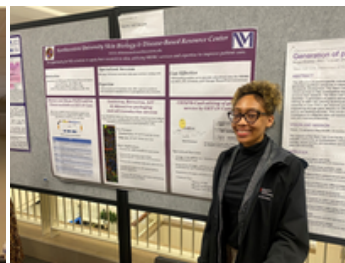
Trinity Thomas



Kaylynn Wilson



Zyra Clark



Trinity Thomas



Vivian Cox



Trinity, Vivian, Denesha, Madalyne, LaGail, Xavier, Valeria, Laura at IAMABLE



Valeria Vizcaino



Veronica Coney



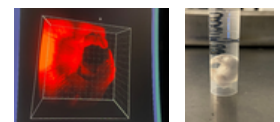
Keenah Moncreace



Kelsey Burnett



Adaria Blackwell and Oluchukwu Akujieze



Essence Jones



Few Recent Alumni



Adaeze celebrates her white coat ceremony at the University of Pennsylvania medical school with her CSU connections, Korvell Russell and Vivian Cox who attended to show their support.



Korvell Russel is a Research Technician at Northwestern University. Korvell and fellow alum Darcae Holmes who also worked at NWU contributed to the large number of students who did summer internship at Northwestern Core Facility

Alayjah Harshaw is in the IPRELS Post Bac Program. Her research involves Alzheimer's disease neuronal circuitry. She is also starting a new position at Advocate Hospital as a radiology assistant