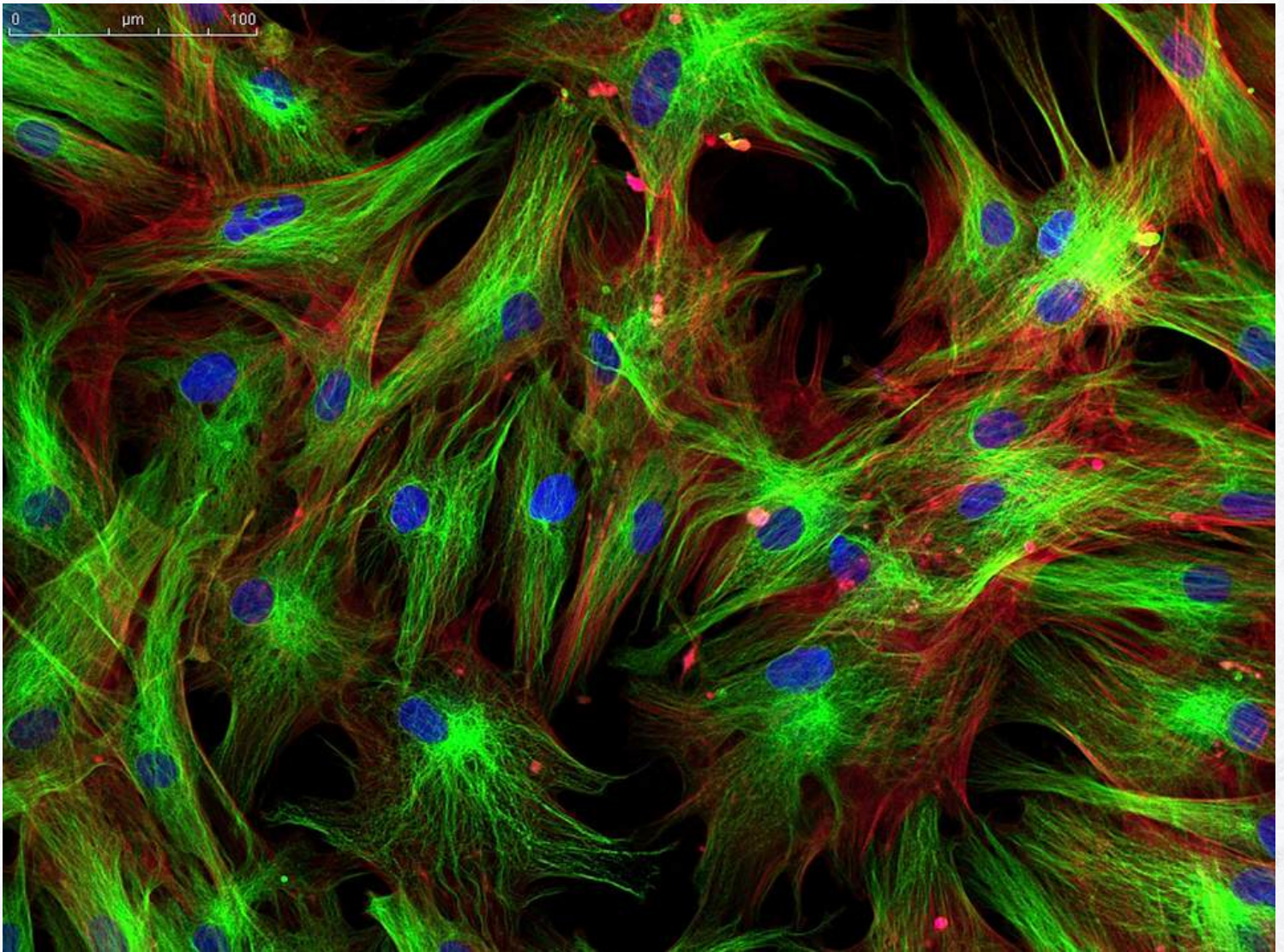


2025

RESEARCH NEWSLETTER

CALIFORNIA NORTHSTATE UNIVERSITY
COLLEGE OF PHARMACY (CNUCOP)



California Northstate University College of Pharmacy is pleased to recognize the accomplishments of our faculty, staff, and student researchers.



A Message from Dr. Ruth Vinall, CNUCOP Assistant Dean of Research



Dear Colleagues,

Our annual CNUCOP office of research newsletter gives us the opportunity to reflect on and celebrate all of our research and scholarship accomplishments for the past year. I continue to be so impressed by the quality and impact level of the research and scholarship being produced by our students, staff, and faculty members. It is also wonderful to see so many internal and external collaborations and the innovations that these have led to.

We continue to have strong output in regard to our key metrics: research grant funding, publications, and presentations. Dr. Fakhru Ahsan and his research team have Federal funding to support their use of cutting-edge organ-on-a-chip technology in the field of pulmonary arterial hypertension research. Dr. Tarek Kassem has funding from ASHP to help support community outreach efforts which engage our pharmacy students. Two of our faculty members, Drs. Zhuqiu (James) Jin and Linh Ho, received internal seed grant funding to support their research and 6 students (Cliff Le, Theresa Xiong, Sang Vuong, Noah Yang, Tracy Tran, and Iqra Ahmed) received CNUCOP student research fellowships. In 2024, our CNUCOP faculty members, students, staff, alumni, and preceptors collectively published 19 peer reviewed journal articles and one book chapter - impressively, 14 CNUCOP students served as co-authors on these publications. There was a total of 36 research presentations given: 23 poster presentations and 13 podium presentations. Again, our CNUCOP students had a strong showing with 60 students serving as co-authors. Information relating to these and other successes as well as more detailed information about our research program can be found in this newsletter and on our CNUCOP website: <https://pharmacy.cnsu.edu/dept/research/>. Also please enjoy all the fun photos that are included in this newsletter!

I am so thankful to work with a team that values our CNUCOP research program and supports its success. Dr. Xiaodong Feng, Dean of CNUCOP, and Dr. Fakhru Ahsan, our CNU Chief Scientific Officer, are champions of CNUCOP research and scholarship. Our lab manager, Mrs. Melanie Pope-Rose, works tirelessly to help ensure all equipment and software stays in working order and that research and scholarship-related processes run smoothly. She also provides invaluable technical support and safety training. Countless individuals conducting research and scholarship, including faculty members, students, staff, alumni, and preceptors, bring their expertise and energy and enthusiasm to this team effort. We also appreciate those who cheer CNUCOP research and scholarship on from the sidelines through attendance of presentations, seminars, and our annual CNU research symposium.

I know that 2025 will bring us new research successes and I can't wait to share these with you all. Thank you!

Ruth Vinall

Ruth Vinall, Ph.D.

Professor and Assistant Dean of Research, CNUCOP

Research Accomplishments 2024

CNUCOP Office of Research; Research and Scholarship Output, 2024

Publications, 2024: TOTAL OF 17 PUBLICATIONS (16 journal articles, 1 book chapter), (14 student co-authors)
(**Bolded** = CNUCOP faculty member, underlined = CNUCOP student, *italics* = CNUCOP staff member)

1. **Uyen Le**, Tuan Tran, Ruth Vinall, Eugene Kreys, Victor Phan, and Ashim Malhotra. Impact of high-stakes exams, incentives, and preparation on student performance: Insights from the pharmacy curriculum outcomes assessment. *Curr Pharm Teach Learn*. 2024. <https://pubmed.ncbi.nlm.nih.gov/38158332/>
2. Samuel M. Poloyac, Kimberly K. Daugherty, Melgardt M. DeVilliers, Dorothy F. Farrell, **Ashim Malhotra**, Thomas D. Nolin, Jayanth Panyam, Om Perumal, Elizabeth A. Sheaffer, Peter W. Swaan. Report of the 2023 AACP Council of Deans Taskforce on Pharmacy Research and Scholarship. *AJPE*. 2024. <https://pubmed.ncbi.nlm.nih.gov/38185465/>
3. Frazee BW, Singh A, Labreche M, Imani P, Ha K, Furszyfer Del Rio J, **Kreys E**, Mccabe R. Methicillin-resistant *Staphylococcus aureus* and *Pseudomonas aeruginosa* community acquired pneumonia: Prevalence and locally derived risk factors in a single hospital system. *J Am Coll Emerg Physicians Open*. 2023. <https://onlinelibrary.wiley.com/doi/full/10.1002/emp2.13061>
4. Praveen K Bommareddy, Hiroaki Wakimoto, Robert L Martuza, Howard L Kaufman, Samuel D Rabkin, **Dipongkor Saha**. Oncolytic herpes simplex virus expressing IL-2 controls glioblastoma growth and improves survival. *Journal for Immunotherapy of Cancer*. 2024. <https://pubmed.ncbi.nlm.nih.gov/38599661/>
5. *Kalkidan Ayele*, **Xiaodong Feng**, **Dipongkor Saha**. A novel oncolytic HSV co-expressing IL-12 and anti-PD-1 for glioblastoma. *Mol Ther Oncol*. 2024. <https://pubmed.ncbi.nlm.nih.gov/38784951/>
6. Nicholas Smith, Harpreet Kaur, Ravneet Kaur, Trisha Minoza, Michael Kent, Ayeh Barekat, and **Justin Lenhard**. Influence of β -lactam pharmacodynamics on the systems microbiology of gram-positive and gram-negative polymicrobial communities. *Frontiers in Pharmacology*. 2024. <https://pubmed.ncbi.nlm.nih.gov/38895629/>
7. Thua-Phong Lam, Ngoc-Vi Nguyen Tran, Long-Hung Dinh Pham, Nghia Vo-Trong Lai, Bao-Tran Ngoc Dang, Ngoc-Lam Nguyen Truong, Song-Ky Nguyen-Vo, Thuy-Linh Hoang, Tan Thanh Mai¹ and Thanh-Dao Tran. Flavonoids as dual-target inhibitors against α -glucosidase and α -amylase: a systematic review of in vitro studies. *Natural Products and Bioprospecting*. 2024. <https://pubmed.ncbi.nlm.nih.gov/38185713/>
8. Diem Hong Tran, Hoang Dang Khoa Do, Hau Thi Tran, Trang Nguyen Minh Pham, Hoang Danh Nguyen, Hoang Thuy Linh, Hoang Quoc Cuong, Minh Thiet Vu and Huong Thi Thu Phung. Rapid identification of SARS-CoV-2 strains via isothermal enzymatic recombinase amplification and nanopore sequencing. *Archives of Virology*. 2024. <https://pubmed.ncbi.nlm.nih.gov/38565796/>
9. **Wang H**, Borlongan M, Kaufman HL, **Le U**, Nauwynck HJ, Rabkin SD, **Saha D**. Cytokine-armed oncolytic herpes simplex viruses: a game-changer in cancer immunotherapy? *J Immunother Cancer*. 2024.
10. Wei X, Tu Y, Bu S, Guo G, **Wang H**, Wang Z. Unraveling the Intricate Web: Complement Activation Shapes the Pathogenesis of Sepsis-Induced Coagulopathy. *J Innate Immun*. 2024. <https://pubmed.ncbi.nlm.nih.gov/38815564/>
11. Linh Thuy Hoang, Tuan Duc Nguyen, Hieu Trung Nguyen, Huong Thi Thu Phung, and Dao Thanh Tran. Herbal bioactive compounds as promising inhibitors of p37 in monkeypox virus: a computational approach. *International Journal of Computational Biology and Drug Design*. 2024. <https://www.inderscienceonline.com/doi/abs/10.1504/IJCBDD.2024.139488>
12. Desiree J Ewell*, Nita Vue*, Sakib M Moinuddin, Tanoy Sarkar, **Fakhrul Ahsan**, **Ruth L Vinall**. Development of a Bladder Cancer-on-a-Chip Model to Assess Bladder Cancer Cell Invasiveness. *Cancers*. 2024. <https://pubmed.ncbi.nlm.nih.gov/39123388/>. *These students contributed equally to the work.
13. Au Vo, Kyle Wong, Amy Abram, Thu Le, and **Linh Ho**. Proteomics and Management of Multiple Sclerosis. In: Amponsah, S.K., Opuni, K.F.M., Pathak, Y.V. (eds) Pharmacoproteomics. Springer, Cham. https://doi.org/10.1007/978-3-031-64021-6_11

Research Accomplishments

2024

14. **Sakib M Moinuddin, Md Ibrahim, Tanoy Sarkar, Md Shahadat Hossain, Melanie Rose, Fakhru Ahsan.** Protocol for quantum dot-based cell counting and immunostaining of pulmonary arterial cells from patients with pulmonary arterial hypertension. STAR Protocols. 2024. <https://pubmed.ncbi.nlm.nih.gov/39298320/>
15. **Patel, B., Gupta, N., Ahsan, F.** Barriers that inhaled particles encounter. J Aerosol Med Pul Drug Delivery. 2024. <https://pubmed.ncbi.nlm.nih.gov/39388690/>
16. **Hai Duc Nguyen, Giang Huong Vu, Linh Thuy Hoang, Min-Sun Kim.** Elucidation of toxic effects of 1,2-diacetylbenzene: an *in silico* study. Forensic Toxicology. 2024. <https://pubmed.ncbi.nlm.nih.gov/39298088/>
17. **Hiep X Nguyen, Nhi Y Le, Chien N Nguyen.** Quality by design optimization of formulation variables and process parameters for enhanced transdermal delivery of nanosuspension. Drug Deliv Transl Res. 2024. <https://pubmed.ncbi.nlm.nih.gov/39496992/>
18. **Darin Cheung, Mohammad Ali Hassan, Tri Huynh, Xiaodong Feng, and Hongbin Wang.** Shedding light on the role of complement C4 activation in cancer. Human Immunology. 2024. <https://pubmed.ncbi.nlm.nih.gov/39732132/>
19. **Samar Ahmed, Rondelle Jordan, Roslyn Rivkah Isseroff, Justin Lenhard.** Potential Synergy of Fluoxetine and Antibacterial Agents Against Skin and Soft Tissue Pathogens and Drug-Resistant Organisms. Antibiotics. 2024. <https://pubmed.ncbi.nlm.nih.gov/39766555/>

Research presentations for 2024: TOTAL OF 36 RESEARCH PRESENTATIONS (23 POSTER PRESENTATIONS AND 13 PODIUM PRESENTATIONS), (60 CNUCOP student co-authors)

PODIUM PRESENTATIONS:

1. **Desiree Ewell, Nita Vue, Sakib Moinuddin, Tanoy Sarkar, Fakhru Ahsan, Ruth Vinall.** Development of a bladder cancer-on-a-chip assay to assess the invasive potential of bladder cancer cells. CNU Annual Research Symposium, 2024.
2. **Rondelle Jordan, Samar Ahmed, Roopreet Dab, Andy Thoong, Xinyi Zhou, Andy Le, Andy Tran, Tuanh Huynh, Chanchal Kaur, Tarwinder Purewal, Kevin Brandt, Cafrey Feng, Raymond Huang, Alexander Swanberg, Roslyn Isseroff, Justin Lenhard.** Potential Synergy of Fluoxetine and Fosfomycin against Drug-Resistant Bacteria. CNU Annual Research Symposium, 2024.
3. **Ruth Vinall.** Development and use of a bladder cancer-on-a-chip model to assess bladder cancer cell invasiveness. CNU Research Seminar. 2024.
4. **Linh Ho.** Use of an *in vitro* model to study adipose tissue remodeling associated with angiogenesis, adipogenesis, and inflammation. CNUCOP Informal Research Seminar. 2024.
5. **Peter Tenerelli.** Impact of the Management, Policy, and Leadership (MPL) certificate program on PharmD student advocacy. CNUCOP informal research presentation. 2024.
6. **Desiree Ewell, Nita Vue, Sakib Moinuddin, Tanoy Sarkar, Fakhru Ahsan, Ruth Vinall.** Development of a bladder cancer-on-a-chip assay to assess the invasive potential of bladder cancer cells. AACR Annual Meeting, 2024.
7. **Karim Pajazetovic, Micah Buller, Dayanjan Wijesinghe, Ashim Malhotra.** Facilitating drug discovery and development using AI/machine learning. ASPET annual meeting. 2024.
8. **Sang Vuong and Welly Mente.** Development of a virtual reality platform to complement student IV sterile compounding laboratory experiences. CNUCOP student research fellowship presentation. 2024.
9. **Noah Yang and Dipongkor Saha.** Optimizing viral therapy – OHSV for enhanced glioblastoma tumor response. CNUCOP student research fellowship presentation. 2024.

Research Accomplishments

2024

10. Theresa Xiong and Tarek Kassem. Service learning program for building bridges with local migrant communities.
11. Iqra Ahmad and Jason Wong. CNUCOP student research fellowship presentation. 2024.
12. Cliff Ly, Giang Tran, and Linh Ho: Barberry compounds target mitochondrial metabolic pathway to induce apoptosis in LNCaP Cells. CNUCOP student research fellowship presentation. 2024.
13. Giang Tran, Cliff Ly, and Linh Ho: Adipose Remodeling in Three-Dimensional Cultures. CNUCOP student research fellowship presentation. 2024.

POSTER PRESENTATIONS:

1. Jodi Calder, **Eugene Kreys**. Association of NSAIDs and Cytopenia Disorders: A Pharmacovigilance Study using Disproportionality Analysis. CNU Annual Research Symposium, 2024.
2. **Linh Ho**, **Tibebe Woldemariam**, Tin Le, Jenny Nguyen, Thanh Truc Do Nguyen, Trung Ky Pham, Melanie Rose. Investigation of Effects of Barberry Compounds on Chemoresistant-prostate cancer. CNU Annual Research Symposium, 2024.
3. Linh Thuy Hoang, Tuan Duc Nguyen, Nghiem Quan Le. Improving the Quality of Total Parenteral Nutrition Preparations for Neonates and Pediatric Patients: A Comprehensive Study at Vietnam's Pediatrics' Hospital II. CNU Annual Research Symposium, 2024.
4. Amber Huynh, Madison Tan, Travis Lyon, **Tony Eid**, **Islam Mohamed**. Exploring the effects of Mounjaro, a dual GIP and GLP-1 receptor agonist, treatment on Lipoprotein (a) levels in patients with Type 2 diabetes. CNU Annual Research Symposium, 2024.
5. Hieu Huynh, Sang Vuong, and **Tibebe Z. Woldemariam**. The Pharmacogenetics of Natural Products: A Pharmacokinetic and Pharmacodynamic Perspective of Selected Plant Products. CNU Annual Research Symposium, 2024.
6. **Zhuqiu Jin**, Teodros Mekonnen. Opposing Role of Akt in Comparison of Doxorubicin-induced Cell Death to Hydrogen Peroxide-induced Cell Death in Human Cardiac Microvascular Endothelial Cells. CNU Annual Research Symposium, 2024.
7. Chrislyn Lawrence, **Eugene Kreys**. The Association Between Pharmacy School Characteristics and Performance Outcomes Over a Six-Year Period. CNU Annual Research Symposium, 2024.
8. **Uyen Le**, **Tuan Tran**, **Ruth Vinall**, **Eugene Kreys**, **Victor Phan**, **Ashim Malhotra**. Impact of High-Stakes Exams, Incentives, and Preparation on Student Performance: Insights from the Pharmacy Curriculum Outcome Assessment. CNU Annual Research Symposium, 2024.
9. Brent Luu, Sampath Wijesinghe, **Tarek Kassem**, Justin Lien, Darrick Luu, Rynee Wijesinghe, Leianna Luu, Gerald Kavingo. Drugs that Potentially Alter the Risk and Severity of COVID-19 Infection. CNU Annual Research Symposium, 2024.
10. **Welly Mente**, **Ashim Malhotra**. Assessing Pharmacy Students' Performance in Managing an Acute Kidney Injury Interprofessional Case in the Acute Care Educational Setting. CNU Annual Research Symposium, 2024.
11. Sakib M. Moinuddin, Tanoy Sarkar, Melanie Rose, **Fakhrul Ahsan**. Intratracheally Administered Peptide-Modified Lipid Admixture Containing Fasudil and/or DETA NONOate Ameliorates Various Pathologies of Pulmonary Arterial Hypertension. CNU Annual Research Symposium, 2024.
12. Sakib M. Moinuddin, Muhammad Ibrahim, Tanoy Sarkar, Melanie Rose, Md Ariful Islam, **Fakhrul Ahsan**. A Microfluidic Model for Studying Drug-Induced Pulmonary Arterial Hypertension. CNU Annual Research Symposium, 2024.
13. Robert Moir, **Eugene Kreys**. Association between County Characteristics on the Gap between Excess Deaths and COVID-19 Mortality. CNU Annual Research Symposium, 2024.
14. Karim Pajazetovic, Dayanjan Wijesinghe, **Ashim Malhotra**. A Novel Use for Generative AI for Immunology Patient Cases for TBL Application Exercises in a PharmD program. CNU Annual Research Symposium, 2024.

Research Accomplishments

2024

15. **Peter Tenerelli, Joanna Jullien, Suzanne Clark.** Impact of the Capital Leadership Forum: Translating Education into Practice. CNU Annual Research Symposium, 2024.
16. **Eurasia Vue, Xinge Zheng, Vy Tran Luu, and Islam Mohamed.** miR-146a; a potential link connecting shear stress-induced activation of the pro-inflammatory and pro-proliferative Osteopontin & TLR-4 pathways. CNU Annual Research Symposium, 2024.
17. **Tibebe Z. Woldemariam.** Evaluating The Efficacy of Different Solvent Systems for Selective Extraction of flavonoids of the C-glucosylquinochalcone group from Safflower (Charthamus Tinctorius, Family Asteraceae). CNU Annual Research Symposium, 2024.
18. **Noah Yang, Dipongkor Saha.** Analysis of Cytopathic Effects and Cytokine Production Induced by a Genetically Modified Oncolytic Herpes Simplex Virus. CNU Annual Research Symposium, 2024.
19. **Desiree Ewell, Nita Vue, Sakib Moinuddin, Tanoy Sarkar, Fakhru Ahsan, Ruth Vinall.** Development of a bladder cancer-on-a-chip assay to assess the invasive potential of bladder cancer cells. AACR Annual Meeting, 2024.
20. **Karim Pajazetovic, Micah Buller, Dayanjan Wijesinghe, Ashim Malhotra.** Facilitating drug discovery and development using AI/machine learning. ASPET annual meeting. 2024.
21. **Zhuqiu Jin, Austin Qiu.** Oxidative stress-induced cell death depends on activation of Akt in human cardiac microvascular endothelial cells. ASPET annual meeting. 2024.
22. **Ahmed S, Dab R, Thoong A, Zhou X, Le A, Tran A, Huynh T, Kaur C, Purewal T, Brandt K, Jordan R, Feng C, Huang R, Swanberg A, Isseroff R, Lenhard JR.** Potential Synergy of Fluoxetine with Antimicrobials. European Congress of Clinical Microbiology and Infectious Diseases, Barcelona, Spain, April 27th – April 30th, 2024.
23. **Hiep X. Nguyen, Nhi Y. Le, Chien N. Nguyen.** Quality by Design Optimization of Formulation Variables and Process Parameters for Enhanced Transdermal Delivery of Nanosuspension. American Association of Pharmaceutical Scientists (AAPS) annual meeting. 2024.

EXTERNAL GRANTS AND CONTRACTS, 2024:

CURRENTLY FUNDED EXTERNAL GRANTS AND AWARDS, 2024:

1. **Fakhru Ahsan (PI).** Title: Recapitulation of sex-disparity in PAH on a microfluidic device and elucidation of the differences and similarities in the development, progression and therapy of PAH in male versus female patients (R01HL144590). Funding agency: NIH/NHLBI. Total funding amount: \$860,735.
2. **Erika Titus Lay (PI), Ruth Vinall (Mentor and Co-PI), Jeffrey Nehira (Co-I), Jennifer Courtney (Co-I), Bin Deng (Co-I), and Tibebe Woldemariam (Co-I).** 2021. Title: 'Identification and mitigation of factors which contribute to increased cancer health disparities as a result of the Covid-19 pandemic; a pharmacist-led and implemented initiative'. Funding agency: ASHP (GRPLS Pharmacy Leadership Scholars). Total funding amount: \$10,000.
3. **Tarek Kassem (PI), Islam Mohamed (Mentor and Co-PI).** Service-learning programs for building bridges with local migrant communities. ASHP (Pharmacy Leadership Scholar Research Program). Total funding amount: \$10,000.

TOTAL OF 11 EXTERNAL GRANTS AND CONTRACTS SUBMITTED (2 student applicants)

INTERNAL GRANTS AND AWARDS, 2024:

TOTAL OF 2 INTERNAL GRANTS AND CONTRACTS THAT RECEIVED FUNDING

1. **Linh Ho (PI).** Development of an in vitro model to study adipose remodeling associated with angiogenesis, adipogenesis, and inflammation. CNUCOP Seed Grant award. 2024.
2. **Zhuqiu (James) Jin (PI).** Exploration of doxorubicin-induced cell death in cardiac endothelial cell. CNUCOP Seed Grant award. 2024.

CNUCOP Student Summer Fellowship awardees (10 applications, 6 awards):

- **Cliff Le** (faculty mentor: Dr. Linh Ho)
- **Theresa Xiong** (faculty mentor: Dr. Tarek Kassem)
- **Sang Vuong** (faculty mentor: Dr. Welly Mente)
- **Noah Yang** (faculty mentor: Dr. Dipongkor Saha)
- **Tracy Tran** (faculty mentor: Dr. Linh Ho)
- **Iqra Ahmed** (faculty mentor: Dr. Jason Wong)

Faculty Research Interests

Faculty member name, Department	Contact information	Area(s) of research interest	Links to related publications, webpages
Fakhrul Ahsan, PBS	fakhrul.ahsan@cnsu.edu	Pulmonary arterial hypertension, organ on a chip, 3D printer drug manufacture	My Bibliography - NCBI (nih.gov)
Suzanne Clark	suzanne.clark@cnsu.edu	neuroscience, neuropharmacology, public health	https://scholar.google.com/citations?user=nN-ac50AAAAJ&hl=en
Tony Eid	tony.eid@cnsu.edu	Cardiovascular Primary Prevention, Reno-Cardiovascular disorders, Nephrolithiasis, Obesity, Lipids, Hypertension	https://www.ncbi.nlm.nih.gov/myncbi/tony.eid.2/bibliography/public/
Xiaodong Feng, CAS	xfeng@cnsu.edu	Clinical meta-analysis, scoping review, survey study	https://pubmed.ncbi.nlm.nih.gov/23550846/ , https://pubmed.ncbi.nlm.nih.gov/35893714/
Linh Ho, PBS	linh.ho@cnsu.edu	Drug development for metabolic disorders and pulmonary hypertension, acetylation/deacetylation, mitochondrial Sirtuins	https://www.ncbi.nlm.nih.gov/myncbi/1v_ckl7P4mRQa/bibliography/public/
Zhuqiu Jin, PBS	zhuqiu.jin@cnsu.edu	Cardiac fibrosis, cardiac endothelial cell viability and barrier functions	https://www.ncbi.nlm.nih.gov/myncbi/zhuqiu.jin.2/bibliography/public/
Tiffany Kreys	tkreys@cnsu.edu	Mood/thought disorders	https://pharmacy.cnsu.edu/directory/bios/tiffany-jade-kreys.php
Eugene Kreys, CAS	ekreys@cnsu.edu	Clinical database research	https://pubmed.ncbi.nlm.nih.gov/24839275/ , https://pubmed.ncbi.nlm.nih.gov/36068791/
Uyen Le, PBS	uyen.le@cnsu.edu	Nanomedicine, melanoma skin cancer, pharmacokinetics, pharmacy education assessment	https://www.ncbi.nlm.nih.gov/myncbi/uyen.le.1/bibliography/public/
Justin Lenhard, CAS	justin.lenhard@cnsu.edu	Microbiology, antimicrobial resistance, antimicrobial PKPD	https://www.researchgate.net/profile/Justin-Lenhard
Ashim Malhotra, PBS	ashim.malhotra@cnsu.edu	pancreatic cancer, mitochondrial dysfunction	https://pubmed.ncbi.nlm.nih.gov/36257540/ , https://pubmed.ncbi.nlm.nih.gov/33669111/
Welly Mente	wmente@cnsu.edu	Diagnostic testing, use of virtual reality in education	https://pharmacy.cnsu.edu/directory/bios/welly-mente.php
Hiep Nguyen	hiep.nguyen@cnsu.edu	Drug design, formulation, fabrication	https://pubmed.ncbi.nlm.nih.gov/39065542/ , https://www.mdpi.com/1999-4923/15/1/277
Olivia Phung	Olivia.Phung@cnsu.edu	Systematic reviews	https://pharmacy.cnsu.edu/directory/bios/olivia-phung.php
Peter Tenerelli, CAS	peter.tenerelli@cnsu.edu	Professional identify, pharmacy advocacy	https://pubmed.ncbi.nlm.nih.gov/30989071/ , https://pubmed.ncbi.nlm.nih.gov/34697014/
Tuan Tran	Tuan.Tran@cnsu.edu	Machine learning and predictive models for health applications	https://pharmacy.cnsu.edu/directory/bios/tuan-tran.php
Ruth Vinall, PBS	rvinall@cnsu.edu	Bladder cancer, understanding pathophysiology and mechanisms of chemoresistance	http://www.ncbi.nlm.nih.gov/sites/myncbi/ruth.vinall.1/bibliography/49800779/public/?sort=date&direction=ascending
Hongbin Wang, PBS	hongbin.wang@cnsu.edu	Melanoma/cancer research, Complement research	https://www.ncbi.nlm.nih.gov/myncbi/14kkYxGbfroke/bibliography/public/
Tibebe Woldemariam	twoldemariam@cnsu.edu	Natural products research	https://pharmacy.cnsu.edu/directory/bios/tibebe-woldemariam.php

Seed Grant Award 2025

The purpose of the Seed Grant Award program is to provide funds to CNUCOP faculty members for scholarly activities that will generate a research publication(s) and preliminary data for external funding. This is a competitive funding mechanism and all applications are reviewed by external reviewers as well as our CNUCOP seed grant committee and then scored and ranked. Our 2025 awardees are Dr. Uyen Le & Dr. Hiep (Ben) Nguyen (Co-PI) and Dr. Hongbin Wang (PI). Congratulations to them and thank you to our CNUCOP seed grant committee members, Drs. James Jin (Chair), Linh Ho, and Tuan Tran for overseeing the application and review process.

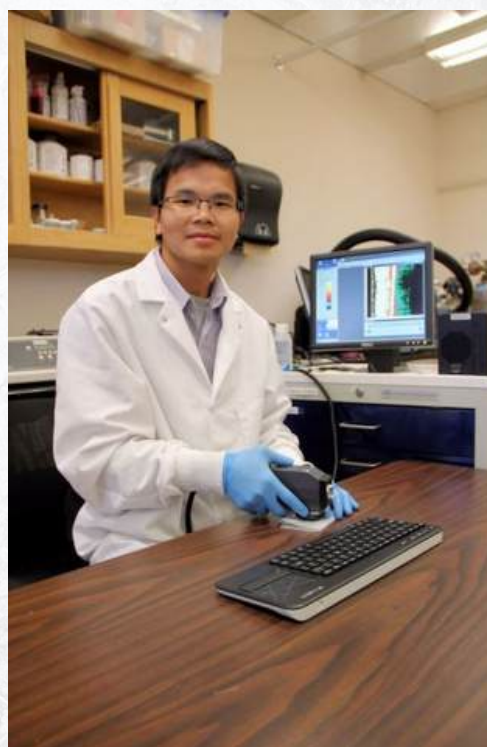
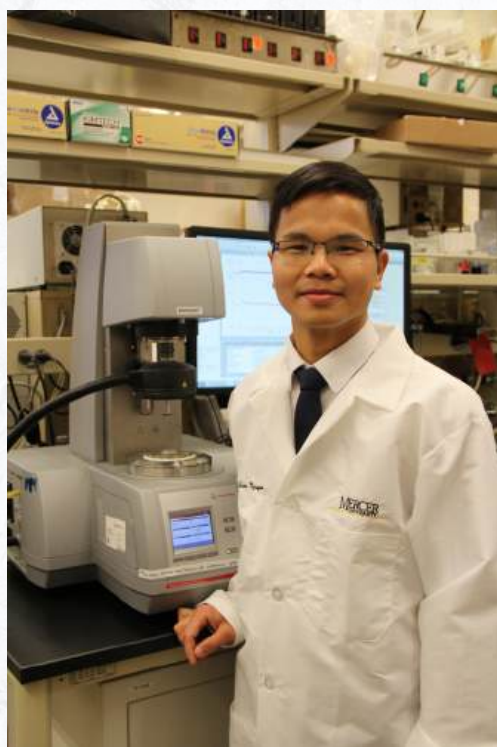


Uyen Le (PI), Hiep (Ben) Nguyen (Co-PI). Novel nanoparticles and microneedles for enhanced transdermal drug delivery. CNUCOP Seed Grant award.



Hongbin Wang (PI). Exploring the functions of complement C4 in cancer cell proliferation and invasion in vitro. CNUCOP Seed Grant award.

Faculty Spotlight: Dr. Hiep “Ben” Nguyen



We are so glad to have Dr. Hiep “Ben” Nguyen as part of our research team here at CNUCOP. He agreed to answer a few questions to give us a better look into his mind.

Q: Can you tell us about your research interests?

My research focuses on advancing drug delivery systems, with particular emphasis on topical and transdermal drug delivery. I specialize in developing innovative technologies, including microneedles, iontophoresis, and sonophoresis. In addition, I implement quality-by-design methodologies to optimize pharmaceutical development processes.

Q: What do you love about research?

What captivates me about research is the integration of innovation and practical application. The pursuit of novel solutions that address real-world therapeutic challenges drives my passion. I find immense satisfaction in translating theoretical concepts into promising technologies that can enhance medications’ safety and efficacy and revolutionize patient care.



Faculty Spotlight: Dr. Hiep “Ben” Nguyen



Q: Do you think there has been a defining moment for your career path?

A pivotal moment in my career trajectory was the acceptance of my book proposal by CRC Press, culminating in the publication of my single-authored work, “Microneedles: The Future of Drug Delivery.” This accomplishment not only consolidated my expertise in the field but also provided a platform to shape the discourse on emerging drug delivery technologies.

Q: What are you most proud of?

I take particular pride in my commitment to intellectual growth and scientific discovery. My dedication to continuous learning has enabled me to develop innovative solutions in pharmaceutical sciences. This perpetual pursuit of knowledge drives me to push boundaries and explore uncharted territories in drug delivery research.

Q: What do you hope to accomplish in the future?

My primary aspiration is to facilitate the translation of our innovative technologies from laboratory concepts to commercial products. I envision our research making a substantial impact on patient care through the widespread clinical implementation of these advanced drug delivery systems.

Q: What do you enjoy about working at CNU?

At California Northstate University, I find tremendous fulfillment in mentoring PharmD students and fostering their professional development. The collaborative environment and steadfast support from colleagues create an ideal setting for academic excellence. The institution provides an optimal platform to leverage my knowledge, experiences, and skills in advancing pharmaceutical education and research at CNUCOP.



Dr. Linh Hoang is a P2 who has an exceptional research history! We wanted to talk to her about her experience, and what being able to participate in research means to her. Here is what we found out!

Q: What first made you interested in doing research?

Initially, I thought of pharmacists as primarily traditional healthcare providers. However, the global COVID-19 pandemic completely shifted my perspective. It became clear that protecting public health required collaboration across all levels—from students to professional scientists and from governments to local communities.

As a pharmacist, I felt an undeniable responsibility not only to care for patients but also to contribute to scientific research—a mission that has become both deeply meaningful and a source of pride for me. Inspired by a passion for public health, I turned to research to explore complex questions and contribute to advancing medicine. This journey has shown me that the role of a pharmacist is more impactful and significant than I had ever imagined.

Q: What do you like about research?

I love tackling complex, meaningful questions that have a direct impact on human health. Every time I find an answer, it feels like fulfilling the noble mission of a pharmacist—contributing to the betterment of public health. It's not just challenging but deeply rewarding, giving me a profound sense of pride and reinforcing the value of the work I do

Q: Do you think that your research at CNU will help your future career path?

With over 14 years of experience as a pharmacist in my home country, I realized there are still missing pieces in my professional journey. My time at CNU is helping to fill those gaps, equipping me with the knowledge, confidence, and ethical foundation I need to excel in my field. CNU is empowering me to grow into a well-rounded pharmacist—one with expertise, integrity, and a vision for the future. This experience is shaping me into a professional who will be ready to make meaningful contributions to healthcare.

Q: What are you most proud of?

I am most proud to have incredible mentors by my side—teachers who are not only knowledgeable but also dedicated and visionary. Their invaluable insights, drawn from diverse and practical experiences, are helping me and my peers grow and develop every day.

I'm also proud to be part of a collaborative and supportive team—a group of students who learn, work, research, and share this exciting journey together.

Above all, I am proud to be a CNU student who is striving to overcome challenges and continuously being shaped and strengthened for the journey toward becoming a future pharmacist

Q: What do you hope to accomplish in the future?

I aspire to contribute to impactful research in the field of infectious diseases at CNU, addressing pressing global health challenges. My goal is to not only advance scientific understanding but also to play a part in strengthening CNU's reputation for excellence in research. Through these efforts, I aim to make meaningful contributions to public health while honing my skills as a pharmacist and researcher, preparing for a future where I can create lasting, positive change

Q: Would you recommend the CNU research program to other students?

Absolutely. Research is an exciting, challenging, and deeply meaningful path for pharmacy students. At CNU, the research program offers an ideal environment to nurture future scientists. With experienced and dedicated mentors, diverse research topics, and well-structured programs, CNU provides everything students need to pursue their dream of becoming researchers in the field of pharmacy.

If you're unsure whether research is right for you—just as I once was—I encourage you to seize the opportunity and try it with passion and dedication. You may discover a journey that allows you to contribute meaningful work to the field and create achievements you will take pride in throughout your career.

Meet your Lab Manager!

MELANIE



Hello! My name is Melanie Pope-Rose, and I am your CNUCOP Research Laboratory Manager! Get to know me!

Q: What do you do as the lab manager?

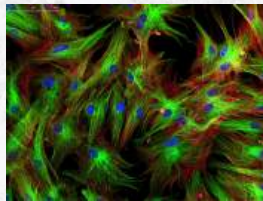
I assist our faculty members with their research projects by training student volunteers. I am always behind the scenes making sure the lab is clean, organized, and well-supplied to make your research easier!

Q: What is your educational background?

I got my Bachelor's at SF State in Cell and Molecular Biology, and my Master's in Stem Cell Research at Sac State. I am not a doctor, so please call me Melanie when we meet!

Q: What is your favorite molecular biology technique?

I really enjoy fluorescent microscopy/immunohistochemistry. You get a really well-rounded idea of cell expression, and it makes such a pretty picture!



Q: Do you have two dogs that you will take any opportunity to talk about?

I am so glad you asked. I have a 11 year old Australian Shepherd named Hannah (Banana, Nanners, etc.) and a 4 year old Dachshund mix named Monday (Monderoo, Munderfoot). They are my joy, and I love them so much. Please come talk to me about them.





CNU COLLEGE OF PHARMACY STUDENT RESEARCH FELLOWSHIP 2024



Cliff Ly
Dr. Linh Ho



Theresa Xiong
Dr. Tarek Kassem



Sang Vuong
Dr. Welly Mente



Iqra Ahmad
Dr. Jason Wong



Noah Yang
Dr. Dipongkor Saha



Tracy Tran
Dr. Linh Ho



Iqra Ahmad
Dr. Jason Wong



Noah Yang
Dr. Dipongkor Saha



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Dr. Linh Ho



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Dr. Jason Wong



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Dr. Linh Ho

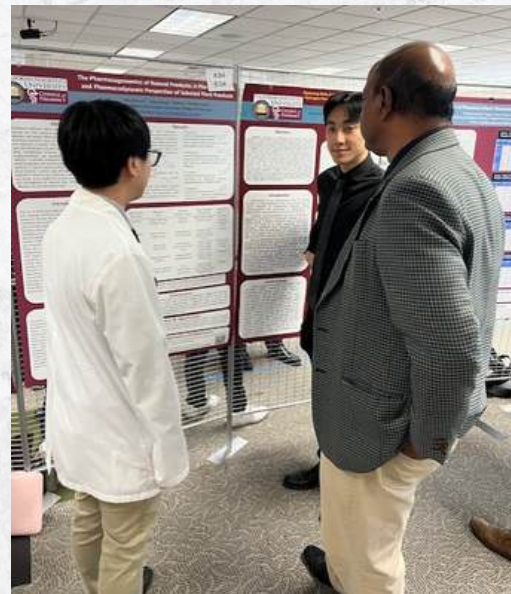
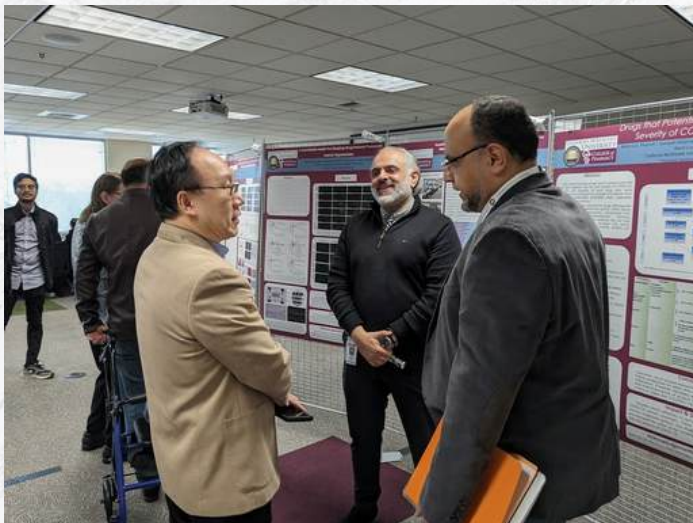
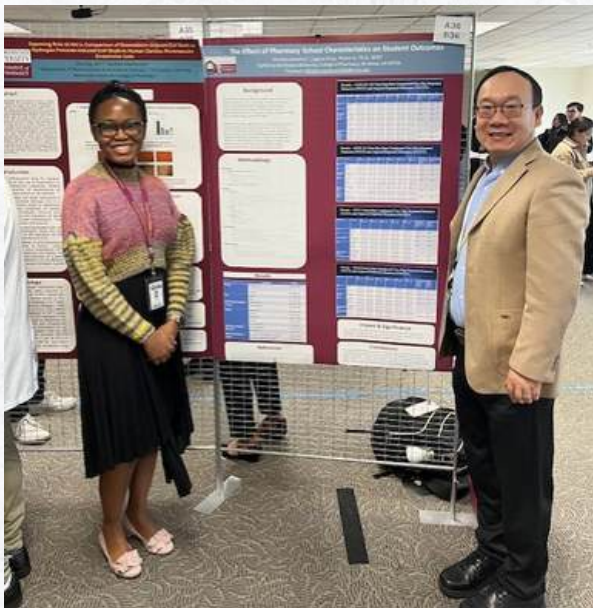
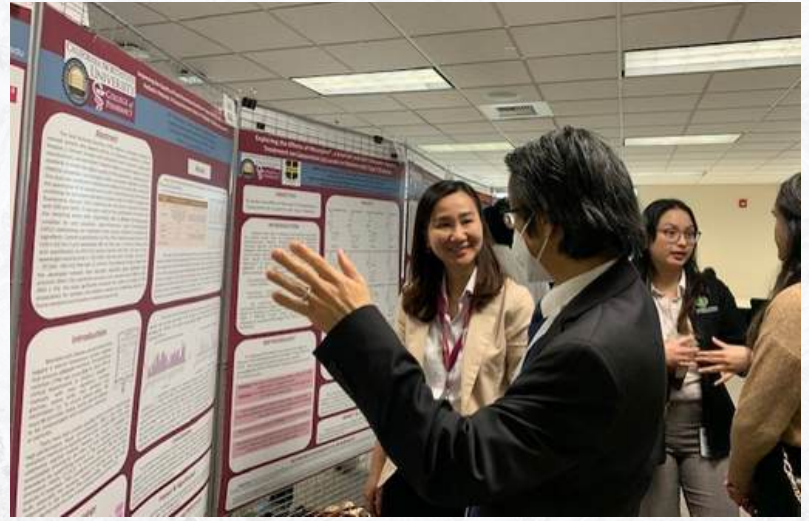
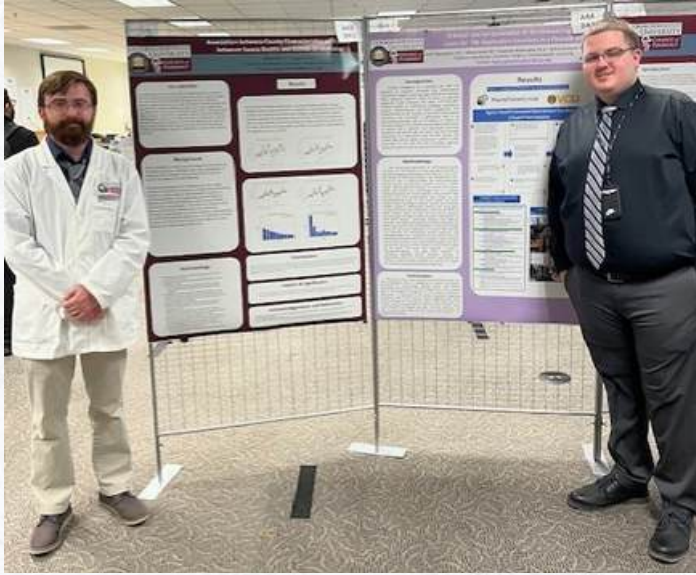


Student Research Fellowship Presentations



- Iqra Ahmad and Jason Wong. Medication assisted treatment (MAT) for opioid use disorders in primary care.
- Noah Yang and Dipongkor Saha. Optimizing viral therapy – OHSV for enhanced glioblastoma tumor response.
- Cliff Ly, Giang Tran, and Linh Ho: Barberrry compounds target mitochondrial metabolic pathway to induce apoptosis in LNCaP Cells.
- Giang Tran, Cliff Ly, and Linh Ho: Adipose Remodeling in Three-Dimensional Cultures.
- Sang Vuong and Welly Mente. Development of a virtual reality platform to complement student IV sterile compounding laboratory experiences.
- Theresa Xiong and Tarek Kassem. Service learning program for building bridges with local migrant communities.

CNU Research Day, 2024





Research Symposium podium presenters and award winners from CNUCOP:

- **Desiree Ewell, Nita Vue** “Development of a bladder cancer-on-a-chip assay to assess the invasive potential of bladder cancer cells”
- **Rondelle Jordan** “Potential Synergy of Fluoxetine and Fosfomycin against Drug-Resistant Bacteria”

Research Symposium poster prize awardees from CNUCOP:

- **1 st place:** Noah Yang (faculty mentor: Dr. Dipongkor Saha) “Analysis of Cytopathic Effects and Cytokine Production Induced by a Genetically Modified Oncolytic Herpes Simplex Virus”
- **2 nd place:** Robert Moir (faculty mentor: Dr. Eugene Kreys) “Association between County Characteristics on the Gap between Excess Deaths and COVID-19 Mortality”
- **3 rd place:** Amber Huynh (faculty mentor: Dr. Tony Eid) “Exploring the effects of Mounjaro, a dual GIP and GLP-1 receptor agonist, treatment on Lipoprotein (a) levels in patients with Type 2 diabetes”

**We hope that you will attend the 2025 CNU
Research Symposium!
(See next page for details)**



CALIFORNIA
NORTHSTATE
UNIVERSITY



KEYNOTE SPEAKER

DR. JAN NOLTA, PHD

Institute for Regenerative Cures
UC Davis

"Cell and Gene Therapies - The
Medicines of the Future"

CALIFORNIA NORTHSTATE UNIVERSITY

2025

RESEARCH SYMPOSIUM

SATURDAY, MARCH 22ND, 2025

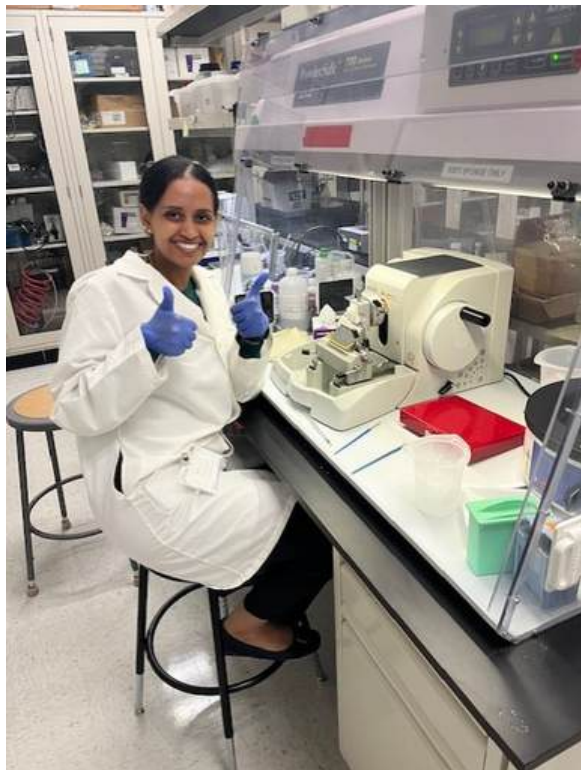
SUBMIT YOUR ABSTRACT



Program
Booklet QR code



Research in Action



Advancing Pharmaceuticals Research

In 2024, equipment that allows for production and analysis of compounded materials such as ointments, tablets and hard capsules was purchased – this equipment will help further support students’ education and research.



Gako Unguator Pro

This machine is used to compound semi solid preparations up to 2000 ml. The unguator allows for sterile compounding by using a closed system which is raised into the mixing position by the stand.

Exakt Ointment Mill

This compact bench-top ointment mill is extremely effective on a wide variety of products. With the single-point gap adjustment, this mill is easy to operate. Particle fineness can be processed in the range of 10 -20 μm . Used for producing preparations of creams, ointments, or gels



DVNext Rheometer

Rheometers are used to measure the way in which a viscous fluid (liquid, slurry or suspension) flows in response to applied forces. This machine measures precise viscosity and yield stress as well as gelation time of compounded materials.



Advancing Pharmaceuticals Research

RC-3 Dissolution tester

Disintegration testers are widely used to measure the quality of the oral dosage form like tablets and capsules. A disintegration test is a procedure to find out the time it takes for a solid dosage form to completely disintegrate



RC-3 Dissolution tester

This machine is used to detect rate and extent of dissolution from tablets and capsules.

CS-4 Friability tester

This machine is used to test the durability of tablets during packing processes and transit. This involves repeatedly dropping a sample of tablets over a fixed times using a rotating drum and baffle.



YD-1A tablet hardness tester

This machine is used to detect the breaking hardness of tablets. The crushing hardness of a tablet is tested by loading a tablet in and the display will show the amount of pressure being applied.

*Thank
you!*

THANK YOU FOR YOUR CONTINUED
CONTRIBUTION TO THE CNU MISSION TO
ADVANCE THE SCIENCE AND ART OF
HEALTHCARE!

