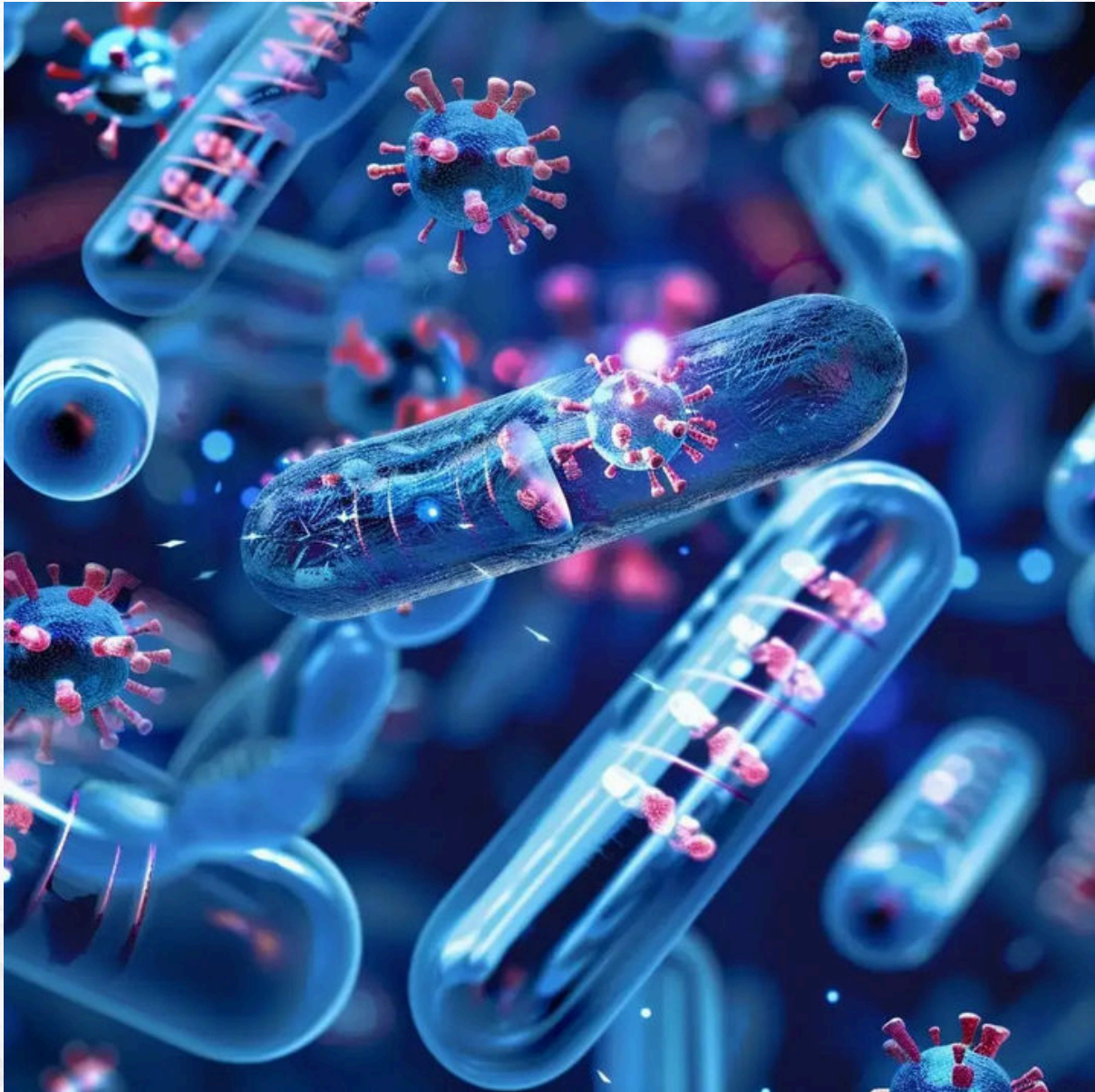


2025

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. Hongbin Wang, CNUCOP Acting Assistant Dean of Research



Dear Colleagues,

We are excited to report another successful year for the CNUCOP research program. We extend our sincere appreciation to Dean Xiaodong Feng and to Dr. Fakhrul Ahsan, CNU Chief Scientific Officer, for their continued and strong support of CNUCOP research. We also wish to thank our Research Lab Manager, Ms. Melanie Pope-Rose, and Dr. Saumya Bipin for ensuring smooth laboratory operations and for their key roles in organizing and streamlining our research efforts. Finally, we are grateful to all faculty, students, staff, alumni, and preceptors who are actively engaged in research and have contributed to this year's achievements, as well as those who support and advocate for our work.

We continue to demonstrate strong performance on key research metrics, including grant funding, publications, and presentations. According to recent AACP data, CNUCOP is currently ranked 74th among all U.S. PharmD programs in federal research funding. Faculty members with active federal funding include Dean Xiaodong Feng and Dr. Fakhrul Ahsan, and a total of 15 external grants and contracts have been submitted, including two student-led applications.

Three faculty members received internal seed grant funding to support their research, and four CNUCOP students were awarded summer research fellowships. In 2025, CNUCOP faculty, students, staff, alumni, and preceptors collectively published 15 peer-reviewed journal articles and two book chapters, with 15 CNUCOP students serving as co-authors. In addition, 25 research presentations were delivered (21 posters and 4 podium presentations), with 35 CNUCOP students listed as co-authors. Special congratulations to Dr. Md Ibrahim on being featured in an interview in the January 2026 issue of Trends in Pharmacological Sciences (impact factor 19.9; <https://doi.org/10.1016/j.tips.2025.12.002>). Thank you, Dr. Ibrahim, for representing CNUCOP and enhancing the visibility of our institution within the scientific community. Appreciation is also extended to Dr. Fakhrul Ahsan for his exemplary mentorship of Dr. Ibrahim. Further details about these and other achievements, as well as additional information about our research program, are available in this newsletter and on the CNUCOP website (<https://pharmacy.cnsu.edu/dept/research/>). I am confident that 2025 will bring additional research successes and look forward to sharing these with you.

Thank you!

Publications, 2025: TOTAL OF 17 PUBLICATIONS (15 journal articles, 2 book chapter)
(Bolded = CNUCOP faculty member, underlined = CNUCOP student, italics = CNUCOP staff member)

1. **Hiep Nguyen**. Beyond the needle: innovative microneedle-based transdermal vaccination. *Medicines*. 2025. <https://pubmed.ncbi.nlm.nih.gov/39982324/>
2. Cuong Quoc Hoang, Quang Phuong Huynh Nguyen, Thao Phuong Huynh Nguyen, Hieu Trung Nguyen, Linh Thuy Hoang, Giang Huong Vu, Woong-Ki Kim, Hai Duc Nguyen. Identification of climate-sensitive disease incidences in Vietnam: A longitudinal retrospective analysis of infectious disease rates between 2014 and 2022. *Heliyon*. 2025. <https://doi.org/10.1016/j.heliyon.2025.e41902>
3. Quoc-Anh Tran, Grant Van Tran, Sanel Velic, Hou Mai Xiong, Jaspreet Kaur, Zuhurr Moosavi, Phuong Nguyen, Nhi Duong, Vy Tran Luu, Gurjot Singh, Tram Bui, Melanie Rose, **Linh Ho**. Effects of Astragaloside IV and Formononetin on Oxidative Stress and Mitochondrial Biogenesis in Hepatocytes. *IJMS*. 2025. <https://pubmed.ncbi.nlm.nih.gov/39859490/>
4. **Uyen Le**, **Tarek Kassem**, and **Tuan Tran**. Enhancing pharmaceutical calculation proficiency: exploring self-directed learning and self-reinforcement assessment strategies for student success. *Curr Pharm Teach Learn*. 2025. <https://pubmed.ncbi.nlm.nih.gov/40088864/>
5. **Malhotra A**, Buller M, Modi K, Pajazetovic K, Wijesinghe DS. Blueprint for Constructing an AI-Based Patient Simulation to Enhance the Integration of Foundational and Clinical Sciences in Didactic Immunology in a US Doctor of Pharmacy Program: A Step-by-Step Prompt Engineering and Coding Toolkit. *Pharmacy*. 2025. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11932309/>
6. Hunter Hudgins, Valeria Molina, Stanley Wiernicki, Kenneth Okwuegbe, **Xiaodong Feng**, **Hongbin Wang**. Targeting C3a and C5a Signaling—A Game Changer for Cancer Therapy? *Biology* 2025, 14(11), 1491; <https://doi.org/10.3390/biology14111491>
7. Borlongan MC, Rodriguez T, Putthanbut N, **Wang H**, Lee JY. Modeling of cancer stem cells and the tumor microenvironment Via NT2/D1 cells to probe pathology and treatment for cancer and beyond. *Discov Oncol*. 2025 Apr 24;16(1):605. doi: 10.1007/s12672-025-02158-2. PMID: 40272656 .
8. Cheung D, Hassan MA, Huynh T, **Feng X**, **Wang H**. Shedding light on the role of complement C4 activation in cancer. *Hum Immunol*. 2025 Jan;86(1):111226. doi: 10.1016/j.humimm.2024.111226. Epub 2024 Dec 27. PMID: 39732132.
9. **Nguyen, H. X.**, Tran, B. N., Nguyen, H. T., Nguyen, V. S., & Nguyen, C. N. (2025). Optimization of Microneedle-Mediated Transdermal Delivery for Therapeutic Agents of Varying Molecular Weights. *Journal of Drug Delivery Science and Technology*, 107422.
10. **Nguyen, H. X.** (2025). Advancements and challenges in microneedle technology for transdermal drug delivery. *Journal of Pharmaceutical Research and Drug Information*. 22; 85-96.
11. **Nguyen HX**, Kipping T, Banga AK. Enhancement of Transdermal Drug Delivery: Integrating Microneedles with Biodegradable Microparticles. *Mol Pharm*. 2025;22(2):984-1009. doi:10.1021/acs.molpharmaceut.4c01202
12. **Ibrahim M**, Roos W, Schwartz J, Khan M, Al-Rahaleh R, Beers L, Pearson C, Langham K, Boyang L, Clark J, Hayat F, Fang Q, Koczor CA, Migaud ME, Sobol RW. Replication-associated base excision repair/single-strand break repair regulates PARG inhibitor response via the PRMT1/PRMT5/ATR axis. *NAR Cancer*. 2025 Dec 12;7(4): zcaf057. <https://doi.org/10.1093/narcan/zcaf057>
13. **Ibrahim M***, Piazza GA, **Ahsan F**. Nerandomilast as the first PDE4B-selective therapy in idiopathic pulmonary fibrosis. *Trends Pharmacol Sci*. 2025 Dec 6;. PMID: 41354560.

14. **Ibrahim M***, Moinuddin SM, Hossain MS, Nguyen T, Sarkar T, **El-Shamy A**, Cucullo L, Lahm T, Nozik E, Simon MA, Stenmark KR, **Ahsan F**. Image cytometry-based quantification protocol of human pulmonary arterial endothelial cells in lab-fabricated multichannel microfluidic devices. *STAR Protoc.* 2025 Oct 21;6(4):104147. PMID: 41124079; PMCID: PMC12589923.
15. Inanc B, Fang Q, Roos WP, Andrews JF, Zeng X, Clark J, Li J, Dey NB, **Ibrahim M**, Sykora P, Yu Z, Pearson CR, Braganza A, Verheij M, Jonkers J, Yates NA, Vens C, Sobol RW. TRIP12's role in the governance of DNA polymerase β involvement in DNA damage response and repair. *Nucleic Acids Res.* 2025 Jun 20;53(12). doi: 10.1093/nar/gkaf574. PMID: 40613707; PMCID: PMC12231584.

Book Chapter

1. **Nguyen, H. X.** (2025). 3D Printing of Microneedles: Advances in Fabrication, Materials, Designs, Characterization, and Applications for Drug Delivery and Biosensing. CRC Press. In Printing.
2. **Hiep X. Nguyen, Hung Q. Kieu, Anh Thu H. Nguyen** (2025). Introduction to Transdermal Drug Delivery Systems, in *Adhesion Challenges in Transdermal Patches: Strategies for Enhanced Performance*, Springer Nature. In Printing.

Research presentations for 2025: TOTAL OF 25 RESEARCH PRESENTATIONS (21 POSTER PRESENTATIONS AND 4 PODIUM PRESENTATIONS), (15 CNUCOP student co-authors)

(Bolded = CNUCOP faculty member, underlined = CNUCOP student, italics = CNUCOP staff member)

PODIUM PRESENTATIONS:

1. **Zhuqui Jin**. Doxorubicin-induced Toxicity to Cardiac Endothelial Cells: Apoptosis vs Ferroptosis. 2025. CNU Research Seminar.
2. **Fakhrul Ahsan**. Microfluidic chips in capturing and counting circulating pulmonary endothelial cells, a potential marker for PAH. 2025. CNU Research Seminar.
3. Theresa Xiong; Emily Lee; **Tarek Kassem**; Islam Mohamed. Service-Learning Programs for Building Bridges with Local Migrant Communities
4. Sang Vuong; Hieu Huynh; **Welly Mente**. Development of a Virtual Reality Platform to Compliment Pharmacy Student IV Sterile Compounding Laboratory Experiences.

POSTER PRESENTATIONS:

1. **Jin ZQ, Vue K.** Prevention of Ferroptosis but not Treatment Protects Cardiac Microvascular Endothelial Cells against Doxorubicin-induced Cell Death. American Society of Pharmacology and Experimental Therapeutics (ASPET) Annual Meeting, 2025
2. **Linh Thuy Hoang; Tuan Duc Nguyen; Hieu Trung Nguyen; Huong Thi Thu Phung; Dao Thanh Tran.** Herbal bioactive compounds as promising inhibitors of p37 in monkeypox virus: a computational approach. 2025. CNU Research Symposium. *FIRST PLACE POSTER PRIZE*
3. **Ogechi Okorie; Shahanara Ahsan.** Medication Therapy Management (MTM) in the Identification and Prevention of Drug Interactions Between Prescription and Over-the-Counter Medications. 2025. CNU Research Symposium. *SECOND PLACE POSTER PRIZE*
4. **Giang Tran, Cliff Ly, Sakib Moinuddin, Fakhrul Ahsan, Linh Ho.** Three-Dimensional Cultures Model Study of Type 2 Diabetes Induced Adipose Remodeling. 2025. CNU Research Symposium. *THIRD PLACE POSTER PRIZE*
5. **Tuan Tran, Victor Phan, Uyen Le.** Assessing ChatGPT's Response accuracy in Pharmacy Education: Insights into Cognitive Complexity. 2025. CNU Research Symposium.
6. **Shahanara Ahsan; Welly Mente; Sonya Frausto; Ruth Vinall.** Impact of transitioning to a block mode of teaching on student outcomes and instructors in courses which use Team-Based Learning pedagogy. 2025. CNU Research Symposium. 2025. CNU Research Symposium, also presented at the TBLC Annual Meeting.
7. **Chrislyn Lawrence; Madison Spencer; Carter Bernal; Bisma Khan; Emily Waddle; Ashraf Mohieldin.** Comparative Proteomic Analyses for Cilia Fragments in Sickle Cell Disease. 2025. CNU Research Symposium.
8. **Giang Tran; Cliff Ly; Linh Ho.** Adipose Remodeling in Three-Dimensional Cultures. 2025. CNU Research Symposium.
9. **Md Ibrahim, Md Shahadat Hossain, Sakib M. Moinuddin, Tri Nguyen, Tanoy Sarkar, and Fakhrul Ahsan.** Microfluidic Device for the Selective Capture and Characterization of Circulating Endothelial Cells as Biomarkers for Pulmonary Arterial Hypertension (PAH). 2025. CNU Research Symposium.
10. **Md Ibrahim, Sakib M. Moinuddin, Md Shahadat Hossain, Tanoy Sarkar, Tri Nguyen, Ahmed ElShamy, and Fakhrul Ahsan.** Deciphering Mechanisms of and Developing Therapies for Drug-Induced Pulmonary Arterial Hypertension (D-PAH). 2025. CNU Research Symposium.
11. **Hung Kieu; Hiep X. Nguyen.** Quality-by-Design Development of Dissolving Microneedles for Enhanced Transdermal Delivery of Semaglutide. 2025. CNU Research Symposium.
12. **Tibebe Z. Woldemariam; Peter M. Tenerelli; Jose Puglisi; and Katherine Le.** Complimenting Antioxidant Potential of Carotenoids in Goji berries (*Lycium barbarum*) fruit with Topical Sunscreens. 2025. CNU Research Symposium.
13. **Katalina Vue; Zhuqiu Jin.** Prevention of Ferroptosis Protects Human Cardiac Microvascular Endothelial Cells against Doxorubicin-induced Cell Death. 2025. CNU Research Symposium.
14. **Peter Tenerelli, Tibebe Z. Woldemariam, Jonathan Vue, Joanna Jullien.** Impact of the CNUCOP Capital Leadership Forum in modernizing Pharmacy Practice. 2025. CNU Research Symposium.
15. **Cliff Ly, Giang Tran, Tram Hoang, Melanie Rose, Tibebe Woldemariam, Linh Ho.** Barberry Compounds Target Mitochondrial Sirtuin-3 and subsequent pathway to Induce Apoptosis in LNCaP Prostate Cancer Cells. 2025. CNU Research Symposium.
16. **Noah Yang, Dipongkor Saha.** Oncolytic Immunovirotherapy: A recipe to convert immunologically cold tumors into hot ones. 2025. CNU Research Symposium.
17. **Tri Huynh† BS, Mohammad Ali Hassant† BS, Darin Cheung† BS, Hongbin Wang* Pharm BS, MS, PhD.** Cancer Immunotherapy and Nanoparticles: Enhancing Vaccine Efficacy through Advanced Delivery. California Northstate University Research Symposium 2025, March 22, 2025. Elk Grove, CA.

Research Accomplishments

2025

18. Darin Cheung† BS, Mohammad Ali Hassant BS, Tri Huynht BS, Tibebe Woldemariam PharmD, PhD, Hongbin Wang* Pharm BS, MS, PhD. Comparing the Efficacy of Compound X to 5FU for Treatment of Prostate Cancer. California Northstate University Research Symposium 2025, March 22, 2025. Elk Grove, CA.
19. Tri Huynht BS, Brandon Bolt BS, Darin Cheung† BS, Mohammad Ali Hassant BS, Hongbin Wang* Pharm BS, MS, PhD. Harnessing Viruses for Good: Advancements and Efficacy of Oncolytic Virus Therapy for Cancer. California Northstate University Research Symposium 2025, March 22, 2025. Elk Grove, CA.
20. Mohammad Ali Hassant BS, Darin Cheung† BS, Tri Huynht BS, Xiaodong Feng, Pharm D, PhD, Hongbin Wang* Pharm BS, MS, PhD. Shedding Light on the Role of Complement C4 Activation in Cancer. California Northstate University Research Symposium 2025, March 22, 2025. Elk Grove, CA.
21. Kaitlin Nunes, Sang Vuong, Rondelle Jordan, and Tony J. Eid, Exploring a Potential Link Between GLP-1 Receptor Agonists and Myodesopsia, 2025 ASHP, Las Vegas on December 8th, 2025. (upcoming)

TOTAL OF 15 EXTERNAL GRANTS AND CONTRACTS SUBMITTED (2 student applicants)

1. **Fakhrul Ahsan** (PI). Deciphering mechanisms of and developing therapies for drug-induced arterial hypertension. NIH R01. Total funding requested: \$3,803,301.
2. **Ruth Vinall** (PI). Engagement of pharmacy students in the development of a functional bladder cancer-on-a-chip model. NIH R15. Total funding requested: \$424,493.
3. Hung Kieu (faculty mentor: **Dr. Hiep Nguyen**), AFPE Gateway to Research Award. \$5,000 requested.
4. Giang (Tracy) Tran (faculty mentor: **Dr. Linh Ho**), AFPE Gateway to Research Award. \$5,000 requested.
5. **Fakhrul Ahsan** (PI). Pulmonary Vasculature-Specific Circulating Endothelial Cells as a Diagnostic, Prognostic, and Therapeutic Biomarker for Pulmonary Arterial Hypertension. NIH R15. Total funding requested: \$431,250.
6. **Ibrahim Mohamed** (PI). Silencing XRCC1 to Reverse PARP-Inhibitor Resistance in Ovarian Cancer via Clinically Translatable Tumor Targeted siRNA Lipid Nanoparticles (LNP). NIH R15. Total funding requested: \$431,250
7. **Ibrahim Mohamed** (PI). Surface proteomics and microfluidics to identify novel biomarkers and capture brain cancer CTCs for early, non-invasive detection and monitoring. DoD. Total funding requested: \$559,736
8. **Ibrahim Mohamed** (PI). Investigating the Molecular Basis of DNA Repair Failure and Developing Therapeutic Strategies to Rescue Motor Neurons in Amyotrophic Lateral Sclerosis (ALS). NIH R01. Total funding requested: \$2,972,809.00
9. **Ibrahim Mohamed** (PI). Disabling DNA Repair Network Plasticity and the Integrin-DDR-Immune Axis to Overcome Therapy Resistance and Dormancy in Solid Tumors. R01-equivalent. Total funding requested: \$2,375,000.00
10. **Ibrahim Mohamed** (PI). NCI R61, **R61CA315196**. Development of a Proteome-Directed HB-Chip for Non-Invasive Monitoring of Glioblastoma. Direct costs: \$ 517,500 (2026-2029)
11. **Ibrahim Mohamed** (PI). DOD Therapeutic Idea Award, **AL250146** (*Invited to Final Stage*). Targeting DNA Damage Repair Deficiency, PARP1 Hyperactivation, and NAD+ Depletion in ALS with Veliparib, XRCC1 mRNA-LNP, and Nicotinamide Riboside. Total costs: \$839,985 (2026-2028)
12. **Ibrahim Mohamed** (PI). DOD Concept Awards, **RA250064**. A Triple-Inhibitor Strategy Targeting PARP1, CHK1, and POLB to Overcome Therapy Resistance in Rare Cholangiocarcinoma. Direct costs: \$140,000.00 (2026-2028)

13. **Ibrahim Mohamed** (PI). DOD Concept Awards, **RA250781**. Targeting Integrin, BER, and Checkpoint Pathways in Glioblastoma Using Repurposed Therapeutics. Direct costs: \$140,000.00 (2026-2028)
14. **Ibrahim Mohamed** (PI). DOD Concept Awards, **RA250062**. siRNA-LNP Silencing of XRCC1 to Exploit Replication-Stress Addiction in Rare Soft-Tissue Sarcoma. Direct costs: \$140,000.00 (2026-2028)
15. **Ibrahim Mohamed** (PI). Target ALS Foundation. PARP inhibition, XRCC1 mRNA-LNP, and NAD⁺ repletion to restore genomic integrity in ALS. Total costs: \$220,000.00 (2026-2028)

INTERNAL GRANTS AND AWARDS, 2025:

TOTAL OF 2 INTERNAL GRANTS AND CONTRACTS THAT RECEIVED FUNDING

1. **Uyen Le** (PI), **Hiep Nguyen** (co-PI). Novel nanoparticles and microneedles for enhanced transdermal drug delivery. CNUCOP Seed Grant award. \$10,000.
2. **Hongbin Wang** (PI). Exploring the functions of complement C4 in cancer cell proliferation and invasion in vitro. CNUCOP Seed Grant award. \$10,000.

CNUCOP Student Summer Fellowship awardees (4 awards, \$2,640 stipend for each student):

- Hung Kieu (faculty mentor: **Dr. Hiep Nguyen**)
- Nghi Tong (faculty mentor: **Dr. Eugene Kreys**)
- Dianna Vang (faculty mentor: **Dr. Ruth Vinall**)
- Amrit Kang (faculty mentor: **Dr. Shahanara Ahsan**)

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. Md Ibrahim



Md Ibrahim (MI) is the first author of the article ‘Nerandomilast as the first PDE4B-selective therapy in idiopathic pulmonary fibrosis’. He recently completed his PhD in Basic Medical Science, with a concentration in Cancer Biology, at the University of South Alabama College of Medicine. He is currently an Assistant Professor at CNUCOP. His research focuses on developing translational therapies to target undruggable DNA damage pathways in cancer, neurodegenerative diseases, and pulmonary arterial hypertension (PAH).

What was your path to becoming a scientist, and can you tell us a bit about your current role?

I trained in pharmaceutical sciences. My father’s fight with adenocarcinoma pushed me toward research, leading to a PhD in cancer biology on DNA repair and therapy resistance. Now I am an assistant professor at California Northstate University, running a lab on therapies in cancer, neurodegeneration, PAH, and microfluidic diagnostics.

Do you have a role model in science or medicine? If so, who and why?

I draw inspiration from scientists who connect basic cell biology to real patient impact. Dr Keith Caldecott stands out for linking fundamental DNA repair work to disease models, which matches my translational mindset. My PhD mentor, Dr Robert Sobol, shaped me by teaching critical thinking, to doubt my own data, and to follow evidence wherever it leads.

Faculty Spotlight:

Dr. Md Ibrahim

What do you see as the challenges and opportunities in the field?

A major challenge is that most disease drivers are still hard to target, especially non-enzymatic proteins and complex repair networks. The opportunity is exciting because new tools like targeted protein degradation, RNA therapeutics, systems-level omics, and AI or virtual reality driven modeling can finally reach those drivers with real precision.

What are some of the global views or concepts we should be thinking about for developing novel therapies/diagnostics?

We should strengthen collaborations with developing countries, where talented researchers need guidance and high impact work can be done at lower cost. We also must move past single targets toward network vulnerabilities, patient diversity, and real-world biology. Therapies should be modular and biomarker guided. Diagnostics should be early, portable, minimally invasive, and globally accessible.

What kind of collaborations and new ventures are you interested in building or pursuing?

I am interested in cross-disciplinary collaborations linking DNA repair, metabolism, virtual reality, data science, and translational drug therapy with clinical cohorts. I am open to National Institutes of Health (NIH) and foundation partnerships, multi-site PAH and cancer projects, visiting roles that expand our pipeline, and industry collaborations for RNA therapeutics, degraders, and diagnostics.

What advice would you give to young scientists who are just starting out in their careers?

You do not have to chase someone else's dream. Focus on research that truly matters to you and helps patients. Do not race for citations or the number of papers. Build strong fundamentals and clear thinking. Learn to write grants and communicate well. Use AI ethically, find honest mentors, collaborate early, and treat failure as training. Protect your integrity.



Dr. Linh Hoang is a P3 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?

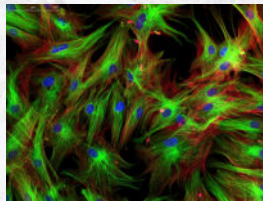
I assist our faculty members with their research projects by training student volunteers. I am always behind the scenes making sure the lab is clean, organized, and well-supplied to make your research easier!

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.





CNUCOP STUDENT RESEARCH FELLOWSHIP 2025

The CNUCOP student research fellowship is a competitive yearly program which offers students the opportunity to gain valuable research experience. Dive deep into the research project of your mentor and work together to build and innovate the science of pharmacy!

2025 Fellowship Awardees

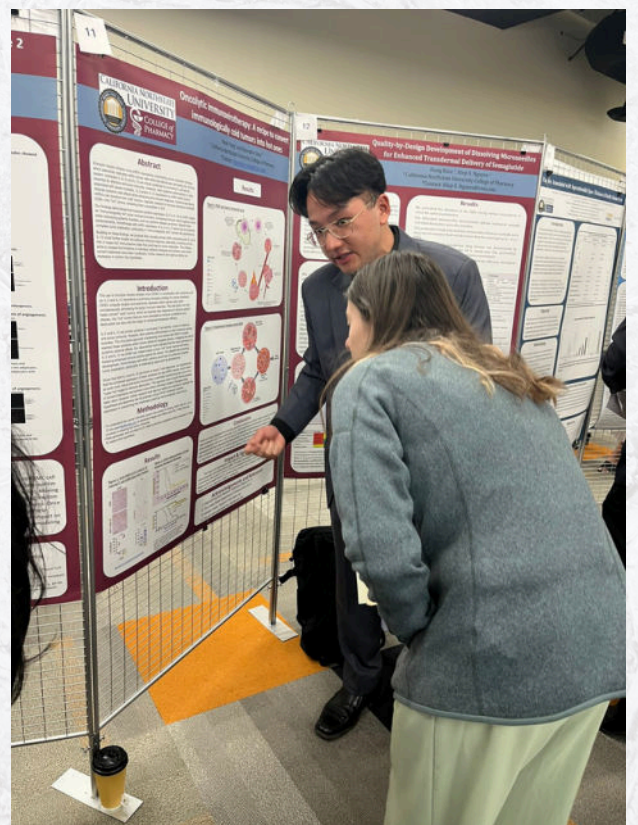
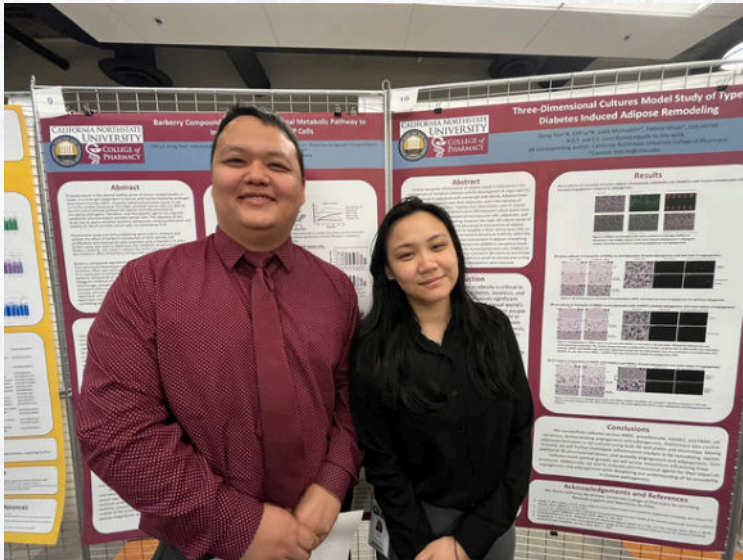
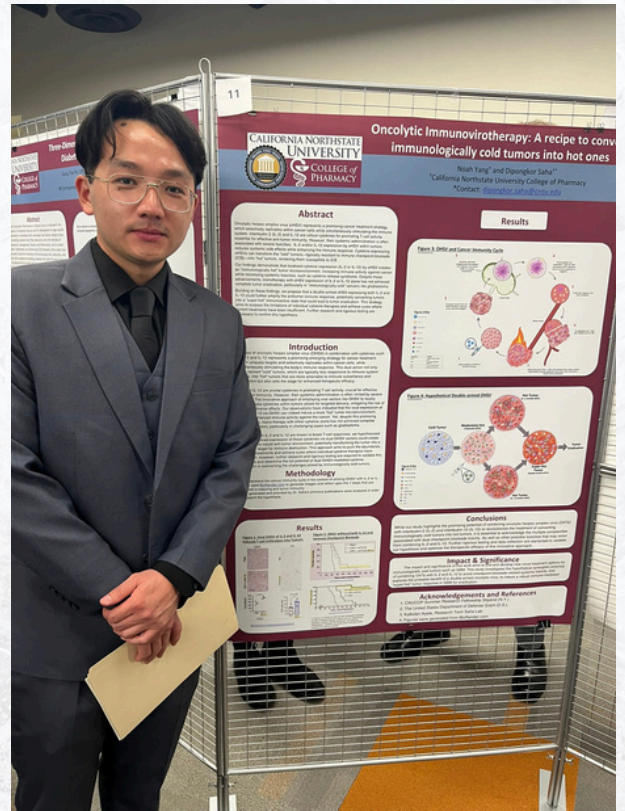


- Hung Kieu (Faculty mentor: **Dr. Hiep "Ben" Nguyen**)
- Nghi Tong (Faculty mentor: **Dr. Eugene Kreys**)
- Dianna Vang (Faculty mentor: **Dr. Ruth Vinall**)
- Amrit Khang (Faculty mentor: **Dr. Shahanara Ahsan**)

For more information and to apply, contact the COP
Department of Research

Dr. Hongbin Wang (hongbin.wang@cnsu.edu)

CNU Research Day, 2025





Research Symposium podium presenters and award winners from CNUCOP:

- **Theresa Xiong, Emily Lee** “Service-Learning Programs for Building Bridges with Local Migrant Communities”
- **Sang Vuong, Hieu Huynh** “Development of a Virtual Reality Platform to Compliment Pharmacy Student IV Sterile Compounding Laboratory Experiences”

Research Symposium poster prize awardees from CNUCOP:

- **Linh Thuy Hoang; Tuan Duc Nguyen; Hieu Trung Nguyen; Huong Thi Thu Phung; Dao Thanh Tran.** Herbal bioactive compounds as promising inhibitors of p37 in monkeypox virus: a computational approach.
- **Ogechi Okorie; Shahanara Ahsan.** Medication Therapy Management (MTM) in the Identification and Prevention of Drug Interactions Between Prescription and Over-the-Counter Medications.
- **Giang Tran, Cliff Ly, Sakib Moinuddin, Fakhru Ahsan, Linh Ho.** Three-Dimensional Cultures Model Study of Type 2 Diabetes Induced Adipose Remodeling.

**We hope that you will attend the 2026 CNU
Research Symposium!
(See next page for details)**

2026 ANNUAL RESEARCH SYMPOSIUM

Friday, April 10th, 2026

Abstract Submission Deadline:
Friday February 20th, 2026

*California Northstate University
9650 West Taron Dr.
Elk Grove, CA 95757*

Keynote Speaker



Learn More!



Program
Booklet QR code

Topic: AI in Healthcare

Ashish Atreya, M.D., M.P.H., F.A.C.P., A.G.A.F.
Physician Executive and AI Innovation Leader Former
CIO and CDHO, UC Davis Health | Founder, GVX
Venture Accelerator and GenServe.AI



<https://www.cnsu.edu/research-symposium-2026/index2.php>

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

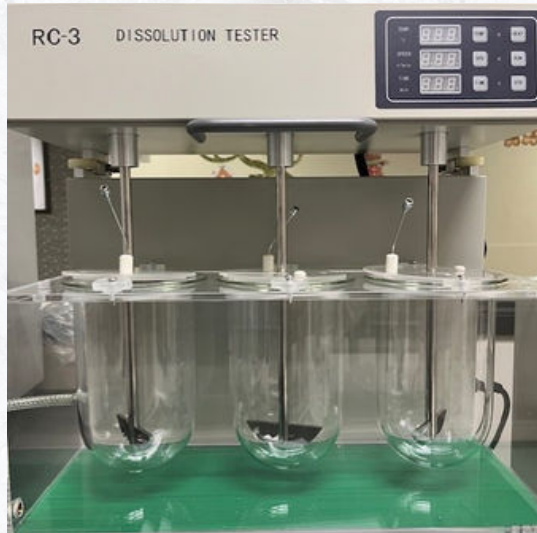
Rheometers are used to measure the way in which a viscous fluid (liquid, slurry or suspension) flows in response to applied forces. This machine measures precise viscosity and yield stress as well as gelation time of compounded materials.



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!

