

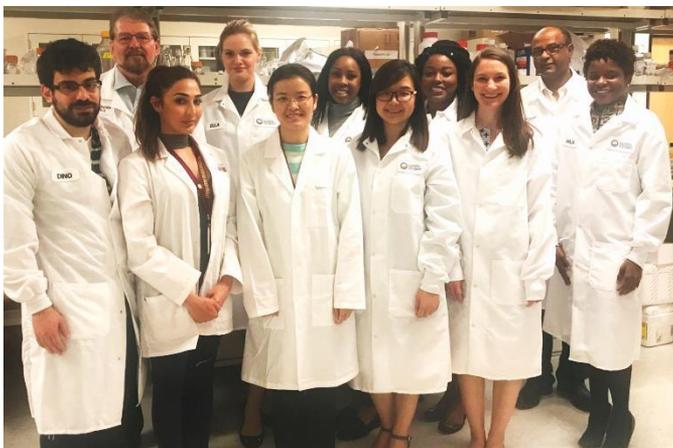


**CALIFORNIA NORTHSTATE  
UNIVERSITY COLLEGE OF  
PHARMACY**

**RESEARCH IN 2018**

**Address: 9700 West Taron Drive**

**Elk Grove, CA 95757**



## **RESEARCH AT CALIFORNIA NORTHSTATE UNIVERSITY COLLEGE OF PHARMACY**

California Northstate University College of Pharmacy (CNUCOP) is dedicated to advancing the science and art of pharmacy. Faculty research and scholarship initiatives are a critical component of the CNUCOP mission.

### **Research Facilities**

Our 2000 square feet research facility at the Elk Grove campus (see the picture on page 3) contains laboratory space and equipment for faculty members to conduct *in vitro* research studies. We are also in the process of adding a new laboratory wing encompassing about 700 square feet of additional research space.



Through agreements with other local institutions (UC Davis Cancer Center and Antibodies Incorporated), CNUCOP also provides basic science faculty members with the capacity to perform *in vivo* research studies. An aerial picture of the Antibodies Inc. facility is shown here.



## **Ongoing Research Projects at CNUCOP**

Research projects are currently being conducted by CNUCOP faculty from all departments. There are several research focus areas as shown below.

### **CANCER RESEARCH**

<b>Faculty</b>	<b>Department</b>	<b>Research Interest</b>
<b>Lakshmi Chaturvedi PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Cancer and Cell Signaling</b>
<b>Ruth Vinall PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Prostate &amp; Bladder Cancer</b>
<b>Ashim Malhotra PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Pancreatic Cancer</b>

### **CARDIOVASCULAR DISEASE RESEARCH**

<b>Faculty</b>	<b>Department</b>	<b>Research Interest</b>
<b>Diana Cao PharmD</b>	<b>Clinical &amp; Administrative Sciences</b>	<b>CV Pharmacotherapy in Acute Care</b>
<b>Tony Eid PharmD</b>	<b>Experiential Education</b>	<b>Preventive Cardiology</b>

### CARDIOVASCULAR DISEASE RESEARCH

<b>Faculty</b>	<b>Department</b>	<b>Research Interest</b>
<b>Zhuqiu (James) Jin PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>S1P Receptor Signaling &amp; Cardiac Fibrosis</b>
<b>Islam Mohamed PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Role of Vascular micro-RNAs in Atherosclerosis</b>

### CLINICAL CARE & OUTCOMES RESEARCH

<b>Faculty</b>	<b>Department</b>	<b>Research Interest</b>
<b>Bing Den PharmD</b>	<b>Clinical &amp; Administrative Sciences</b>	<b>Primary Care in Underserved Areas</b>
<b>Sukhvir Kaur PharmD</b>	<b>Experiential Education</b>	<b>Patient Outcomes In Pain Management</b>
<b>Joe Hubbard PharmD</b>	<b>Experiential Education</b>	<b>Medication Therapy Management</b>

### CLINICAL CARE & OUTCOMES RESEARCH

<b>Faculty</b>	<b>Department</b>	<b>Research Interest</b>
<b>Eugene Kreys PharmD, PhD</b>	<b>Clinical &amp; Administrative Sciences</b>	<b>Medication Adherence on Clinical Outcomes</b>
<b>Huyen Vu PharmD</b>	<b>Clinical &amp; Administrative Sciences</b>	<b>HIV Patient Management</b>

### DATA ANALYSIS SCHOLARSHIP

<b>Faculty</b>	<b>Department</b>	<b>Research Interest</b>
<b>Tuan Tran PhD</b>	<b>Clinical &amp; Administrative Sciences</b>	<b>Data Analysis and Mining</b>

### DIABETES RESEARCH & SCHOLARSHIP

<b>Faculty</b>	<b>Department</b>	<b>Research Interest</b>
<b>Linh Ho PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Mitochondrial Sirtuins &amp; Type 2 Diabetes</b>

### **DIABETES RESEARCH & SCHOLARSHIP**

<b>Faculty</b>	<b>Department</b>	<b>Research Interest</b>
<b>Olivia Phung PharmD</b>	<b>Clinical &amp; Administrative Sciences</b>	<b>Meta-analyses and Diabetes Treatment</b>

### **DRUG DELIVERY & SOLUBILITY RESEARCH**

<b>Faculty Member</b>	<b>Department</b>	<b>Research Interest</b>
<b>Eman Atef PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Drug Solubility</b>
<b>Uyen Le PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Drug Delivery &amp; Targeting</b>

### **INFLAMMATION RESEARCH**

<b>Faculty</b>	<b>Department</b>	<b>Research Interest</b>
<b>Hatem Elshabrawy PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Macrophages &amp; Rheumatoid Arthritis</b>

### **INFLAMMATION RESEARCH**

<b>Faculty</b>	<b>Department</b>	<b>Research Interest</b>
<b>Leo Fitzpatrick PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Inflammatory Bowel Disease (Drug Discovery)</b>
<b>Hongbin Wang PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Complement Fragment C4a Interaction with PAR</b>

### **MICROBIOLOGY & VIROLOGY RESEARCH**

<b>Faculty Member</b>	<b>Department</b>	<b>Research Interest</b>
<b>Justin Lenhard PharmD</b>	<b>Clinical &amp; Administrative Sciences</b>	<b>In Vitro Suppression of Antibacterial Resistance</b>
<b>Ahmed El-Shamy</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Virus and Host Cell Interactions</b>

**NATURAL PRODUCTS & PLANT PHYSIOLOGY**  
**RESEARCH**

<b>Faculty Member</b>	<b>Department</b>	<b>Research Interest</b>
<b>Simeon Kotchoni PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Plant Physiology</b>
<b>Tibebe Woldemariam PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Natural Products Chemistry</b>

**PSYCHIATRY & SUBSTANCE ABUSE**  
**RESEARCH**

<b>Faculty Member</b>	<b>Department</b>	<b>Research Interest</b>
<b>Tiffany Kreys PharmD</b>	<b>Clinical &amp; Administrative Sciences</b>	<b>Anxiety Disorders</b>
<b>Erika Titus-Lay PharmD</b>	<b>Clinical &amp; Administrative Sciences</b>	<b>Substance Abuse Disorders</b>

**TEAM BASED LEARNING (TBL) & TEACHING  
RELATED SCHOLARSHIP**

<b>Faculty Member</b>	<b>Department</b>	<b>Research Interest</b>
<b>Suzanne Clark PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>TBL Related Scholarship</b>
<b>Uyen Le PhD</b>	<b>Pharmaceutical &amp; Biomedical Sciences</b>	<b>Teaching Scholarship</b>
<b>Welly Mente PhD</b>	<b>Clinical &amp; Administrative Sciences</b>	<b>Clinical Teaching Related Scholarship</b>

Further pertinent information on **Faculty Research and Scholarship interests, as well as publications** can be found within the research section of the **CNUCOP website**. The website link is attached here: <http://pharmacy.cnsu.edu/>

**Editorial Board and Grant Reviewers**

Many CNUCOP faculty members serve as editors or on editorial boards of peer-review scientific journals, as well as reviewers for external grants. Lists of these faculty members are shown on page 11

<b>Faculty Member</b>	<b>Editor/Editorial Board</b>
<b>Ahmed ElShamy</b>	<b>Medicine</b>
<b>Diana Cao</b>	<b>California Journal of Health-System Pharmacists</b>
<b>Faculty Member</b>	<b>Editor/Editorial Board</b>
<b>Tibebe Woldemariam</b>	<b>Journal of Pharmacovigilance Journal of Integrated Omics Journal of Pharmacology &amp; Clinical Toxicology Journal of Medicinal Chemistry &amp; Toxicology</b>
<b>Leo Fitzpatrick</b>	<b>World Journal of Gastrointestinal Pathophysiology Pharmacy &amp; Pharmacology International Journal InflammoPharmacology</b>

<b>Faculty Member</b>	<b>External Grant Reviewer</b>
<b>Justin Lenhard</b>	<b>UK Based Medical Research Council</b>
<b>Ruth Vinall</b>	<b>ASHP New Investigator Award</b>
<b>Islam Mohamed</b>	<b>American Heart Association</b>
<b>Faculty Member</b>	<b>External Grant Reviewer</b>
<b>Leo Fitzpatrick</b>	<b>Department of Defense: IBD Grants</b>

**CNUCOP Seed Grant Process:** The purpose of the internal Seed Grant Award program is to provide funds to CNUCOP faculty members for scholarly activities that will generate a research publication(s) and/or preliminary data for external funding. Currently, there are **five 2018 CNUCOP Seed Grant winners:** 1) **Dr. Hatem Elshabrawy** for his proposal entitled “Investigating the Role of PTP- $\zeta$  in Rheumatoid Arthritis.” 2) **Dr. Huyen Vu** also earned a grant award for “The Public Perception of Pharmacists and Barriers to Utilizing Pharmacy Services.” 3) **Dr. Hongbin Wang** received an award for his grant entitled: “C4a mitigates LPS-induced endotoxic effects through association with PAR1 and PAR4.” 4) **Dr. Islam Mohamed** earned an award for his grant entitled: “Targeted mir-146a; an innovative modality for shear-induced vascular inflammation.” 5) **Dr. Erika Titus-Lay** received an award for her grant entitled: “Attitudes and Barriers with Obtaining Naloxone from a Lay-Person Perspective.”

### **Student Research at CNUCOP**

The CNUCOP administration encourages student research with faculty mentors. In 2016, CNUCOP initiated an inaugural Student Summer Research Fellowship Program. On April 7, 2017 two summer research fellowships were awarded to current CNUCOP pharmacy students.

The selection of summer fellowship awardees was made by members of the research committee at

CNUCOP. The fellowship award winners were chosen based on the student's academic record, personal statement in the fellowship application, letter of recommendation, as well as overall motivation and interest in research/scholarship related to their future career paths.

The two fellowship awardees for 2017 were **Jessica Dallalzadeh** and **Vinna Nam**. Pertinent information regarding these fellowship projects are shown on pages 13 and 14.

Summer Research Fellow: **Jessica Dallalzadeh**  
[P3 Student]



***“I was able to further my knowledge in cardiovascular disease from a research perspective. I am forever grateful to have had this opportunity.” Jessica Dallalzadeh***

**Faculty Mentor: Dr. Zhuqiu (James) Jin**

Project: A novel mechanism underlies reversal of myofibroblast differentiation by phorbol 12-myristate 13-acetate

Summer Research Fellow: **Vinna Nam** [P3 student]



***“I would like to thank CNUCOP for having and sponsoring this great fellowship available for students and I hope CNUCOP will expand the fellowship opportunities to more students in the future.” Vinna Nam***

**Faculty Mentor: Dr. Eugene Kreys**

Project: Trends of Hospitalizations as a Result of Infectious Causes in Patients with Autoimmune Diseases

On April 17, 2018 three summer research fellowships were awarded to current CNUCOP pharmacy students for the current fellowship cycle. Relevant information regarding the student awardees and their faculty mentors is shown below.

STUDENT NAME (CLASS)	FACULTY RESEARCH ADVISOR
 Eric Tang (P1)	 Eugene Kreys PharmD, PhD
 Luis Tolento Cortes (P1)	 Simeon Kotchoni PhD
 Christina Stephenson (P2)	 Erika Titus-Lay PharmD

The summer research fellowship program will start on June 1 and end on July 27, 2018.

## **Key Research Personnel (CNUCOP)**

Under the guidance of Dean Hieu Tran (CNUCOP) and Dr. Philip Mack (VP of Research at CNU), key research personnel at CNUCOP include **Dr. Leo Fitzpatrick, Mr. George Talbott and Dr. Tibebe Woldemariam**. Dr. Fitzpatrick has served as the Assistant Dean of Research at CNUCOP since July of 2015. He is also the current grant signing officer for CNUCOP. Mr. Talbott has a M.S. Degree and supervises the Elk-Grove campus research laboratory as the lab manager. Dr. Woldemariam is the current chair of the research committee at CNUCOP. Dr. Fitzpatrick's biographical sketch and photograph are shown here.

### Leo R. Fitzpatrick Ph.D. (Assistant Dean for Research)

Dr. Fitzpatrick has approximately 30 years of relevant biological and drug discovery research experience.



Dr. Fitzpatrick received a Ph.D. in Physiology from George Washington University. He began his scientific career by doing a post-doctoral fellowship

(1984-1986) at the University of Texas Medical School (Houston). From 1986 to 2003, Dr. Fitzpatrick was involved in drug discovery and development at three pharmaceutical companies. Subsequently, Dr. Fitzpatrick began a 10 year (2003-2013) faculty position at the Penn State College of Medicine (Hershey, PA). While at Penn State, he continued ongoing research related to IBD, infectious colitis and arthritis. His research collaborations resulted in the funding of 15 academic-related grants and contracts with pharmaceutical/biotechnology companies. Dr. Fitzpatrick has served on the editorial board of *World Journal of Gastrointestinal PathoPhysiology* and *Pharmacy & Pharmacology International Journal*, as well as a reviewer for several scientific journals including *InflammoPharmacology*, *JPET*, and *Inflammatory Bowel Diseases*. Dr. Fitzpatrick has published 56 original research articles, as well as approximately 75 conference-related abstracts.

**Further Information:** Please direct any future inquiries related to the contents of this booklet and/or ongoing research initiatives at CNUCOP to:  
**Leo R. Fitzpatrick Ph.D.**

**Assistant Dean of Research**  
**E-mail: [lfitzpatrick@cnsu.edu](mailto:lfitzpatrick@cnsu.edu)**  
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