**CNU Ph.D. in Pharmaceutical & Biomedical Sciences Program**

**Potential Dissertation Advisors**

**Fakhrul Ahsan, Ph.D.**
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Research overview:

Dr. Ahsan currently serves as the Chief Scientific Officer and University Distinguished Professor at California Northstate University. His journey in pharmaceutical research began in Bangladesh, where he worked as a Product Development Scientist at a major pharmaceutical company before pursuing higher education in the field. He earned his BS and MS in Pharmacy from the University of Dhaka, Bangladesh, and went on to complete his Ph.D. in Pharmaceutics from Complutense University of Madrid, Spain. He completed postdoctoral training at the University of Alabama at Birmingham before joining the faculty at Texas Tech University Health Sciences Center, where he worked his way up from Assistant to Tenured Full Professor and was awarded the title of University Distinguished Professor.

Dr. Ahsan's research primarily focuses on nanoparticle-based inhalation drug systems for treating pulmonary arterial hypertension (PAH), a rare pulmonary vascular condition. His expertise lies in the field of nanomedicine. His current projects also involve the use of microfluidic chips for understanding PAH pathophysiology and for developing diagnostic markers. In addition, his research includes 3D printing of customized dosage forms for pediatric PAH patients. Currently, he is working towards the large-scale manufacturing of lipid-based nanoparticles and microfluidic chips.

Dr. Ahsan has mentored over 40 undergraduate and graduate students, postdoctoral fellows, research assistant professors, and international visiting scientists. He has a strong, externally funded research program at CNUCOP and has published over 100 scientific papers, making him a frequent speaker at national and international scientific conferences. He lends his expertise to expert panels at the National Institutes of Health (NIH) and the Department of Defense.

Link to publications:
http://www.ncbi.nlm.nih.gov/myncbi/fakhrul.ahsan.1/bibliography/42629232/public/?sort=date&direction=ascending

**Dipongkor Saha, DVM, Ph.D.**
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Research overview: Dr. Saha's research expertise encompasses the areas of cancer immunology/immunotherapy and the application of oncolytic viruses and cancer stem cell-based vaccines for the treatment of cancers. Given the lack of effective treatments for both glioblastoma (GBM) and triple-negative breast cancer (TNBC), which are highly lethal types of cancer, and considering the promising results of oncolytic herpes simplex virus (oHSV) in other cancer types, a long-term goal is to develop a curative oHSV-based immunotherapeutic strategy for treating GBM and TNBC. Additionally, he has generated a novel concept of utilizing cancer stem cell-derived anticancer vaccines for the treatment of glioblastoma, resulting in complete glioblastoma eradication following vaccination with glioblastoma stem cells.

Link to publications: https://www.ncbi.nlm.nih.gov/myncbi/dipongkor.saha.2/bibliography/public/

**Han-Rong Weng, M.D., Ph.D.**
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Research overview: Dr. Weng's current research is focused on systemic lupus erythematosus (SLE). The majority of SLE patients suffer from chronic pain due to the lack of safe and effective analgesics. Understanding molecular mechanisms underlying the genesis of chronic pain in animal models is a crucial step for identifying molecular targets for the development of analgesics. In this project, we will first elucidate spinal molecular signaling pathways leading to the genesis of chronic pain caused by SLE via demonstrating the presence of spinal neuroinflammation and the role of YTHDF2 in regulating the spinal neuroinflammation, we will then demonstrate that activation of GPR109A produces analgesic effects in SLE mouse models with chronic pain via normalizing YTHDF2 protein and alleviating spinal neuroinflammation in the spinal cord. Successful completion of this project will identify YTHDF2 and GPR109A as novel targets for regulating spinal neuroinflammation and highlight that regulating these molecular functions is a means for management of chronic pain caused by lupus disease. A mouse model of SLE will be used. Multidisciplinary approaches, including behavioral phenotyping, pharmacology, molecular biology, epigenetics, will be used to reach our research goals in this project.

Link to publications:
https://pubmed.ncbi.nlm.nih.gov/?term=weng+hr+not+liu&sort=date