HOUSTON

COLLEGE OF PHARMACY





Report to the Texas Pharmacy Congress — Feb. 26, 2021

Students, Faculty and Alumni Join COVID-19 Vaccination Clinics in Houston, Rio Grande Valley

UH College of Pharmacy Pharm.D. students, faculty members and alumni are eagerly responding to the call for immunizers as COVID-19 vaccination efforts get underway across Texas.

In the first effort, UHCOP team members assisted with the vaccination clinics organized by the college's Rio Grande Valley Pharm.D. Satellite Program partner, Edinburg-based DHRHealth.

Most recently, UHCOP immunizers assisted in with the Memorial Hermann Health System's drive-through clinic at Houston's NRG Park, which saw over 14,000 immunized over four days. Volunteer students and faculty delivered immunizations, manned pre-immunization screening and post-immunization observation stations, and transported doses between staging and immunization areas.



SNPhA Chapter, Members Earn Outreach and Skills Competition Awards at Nationals

The UHCOP Chapter of the Student National Pharmaceutical Association (SNPhA) brought home national awards for its local outreach efforts as well as winner or finalist rankings in teambased competitions

at the 2020 SNPhA Virtual National Convention Nov. 4-6.

Among the national health education campaigns completed during the 2019-20 academic year, the UHCOP chapter secured awards for the Fighting Diabetes, The Power to End Stroke/Smoking Cessation, Mental Health, and Project Keepsake initiatives.

Chapter members Will Chollett and Lauren Lee won the P2 division of the



SNPhA members discuss stress and mental health with children at a health fair.

SNPhA Kroger Clinical Skills Competition, and Ndidi Chiedu and Faith Awoniyi were members of the first runner-up team in the 2nd Annual SNPhA L.E.A.P. at Lilly Business Plan Competition.

Student Emily (Emy) Cooper, who served as 2019-20 National Recording Secretary, received a national Kroger/National Pharmaceutical Association (NPhA) Foundation scholarship and was among the finalists for the National J.B. Hills Chapter President of the Year Award.

The chapter also was among the Top 3 Chapters in overall scoring for the Chauncey I. Cooper Chapter of the Year Award.

Zhang Tapped to Lead New Drug Discovery Institute at UH

Ruiwen Zhang, M.D., Ph.D., DABT, UHCOP Robert L. Boblitt Endowed Professor of Drug Discovery, has been appointed as the inaugural director of the new multidisciplinary UH Drug Discovery Institute.

The institute – UH's eighth University-wide research center – is a partnership between the UH colleges of Pharmacy, Natural Sciences and Mathematics and Cullen College of Engineering, in equal measure, with faculty affiliations from several other colleges.

The ultimate goal of the DDI research program is to bring scientific discoveries and technological advances to the marketplace. UH has expertise across many aspects of the drug discovery process, such as high-throughput screening technologies, organ-on-chip models, biosensing and biofeedback, and molecular modeling.

Student News

In the Virtual TX SNPhACON 2020 Clinical Skills Competition in November, UHCOP Pharm.D. students **Ricky Huynh-Phan** and **Duc Huynh** won first place and **Julie Nguyen** and **Wendy Nguyen** won second place, respectively, in the P3 Division; **Lauren Lee** and **Noemie Senawong** won second place in the P2 Division; and **Aniqa Virani** and **Sarah Thomas** won first place in the P1 Division.

• • • • • • • • • •

UHCOP Pharm.D. students presented a state-high 30 research posters during the American Society of Health System Pharmacists 2020 Virtual Midyear Clinical Meeting and Expo Dec. 6-10.

• • • • • • • • • •

UH's Delta Delta Chapter of the Kappa Psi Pharmaceutical Fraternity has been awarded a \$1,000 grant from the International Kappa Psi Philanthropy Committee to purchase, collect and assemble care packages for Houston's homeless community. The chapter's care packages will consist of health products, such as masks, soap and toothbrushes, as well as water bottles and clean socks, and will be distributed by Mission Centers of Houston's Gano Mission Center, a nonprofit arm of the Union Baptist Association of Texas.

• • • • • • • • •

Two new student organizations within UHCOP have gained official recognition from UH Pharmacy Council and the University of Houston: the African Pharmacy Students Association and the Society for Sexual and Gender Disparities in Pharmacy.

• • • • • • • • • •

Kappa Psi's Delta Delta Wins 5th SW Province Chapter of Year Award

UHCOP's Delta Delta Chapter of the Kappa Psi Pharmaceutical Fraternity has secured its fifth consecutive Chapter of the Year Award in the national organization's Southwest Province.

Among the chapter's activities during the 2019-20 academic year were coordinating eight wellness fairs; collecting 80 books, creating dozens of bookmarks, and volunteering to read to children at local pediatric clinics; and raising money for Hurricane Dorian relief fund.

In addition, Chapter Regent Julie Lu and Webmaster Rustin Pevehouse were elected to the Kappa Psi Southwest Province Executive Board as Historian and Webmaster, respectively.

Faculty & Research News

NIH Backs Study of Metformin to Prevent Weight Gain in Pediatric Mental Health Patients

UHCOP Professor Hua Chen, M.D., Ph.D., has been awarded a \$455,000 grant from the National Institutes of Health to study the effectiveness of antidiabetic drug Metformin in preventing weight gain among pediatric patients upon initiation of antipsychotic medications for mental health pharmacotherapy.

In up to 80% of cases, the use of atypical/second-generation antipsychotic drugs causes antipsychotic-induced weight gain (AIWG) with children gaining up to 120 pounds in a single year.

"Our prior work found that most of the AIWG in children and adolescents happened during the first three months of SGA treatment, and SGA discontinuation only reversed a quarter of the weight the patient gained during the treatment within one year of SGA cessation," Chen said.



Not only can childhood onset obesity carry a greater risk for type 2 diabetes and cardiovascular diseases than adult onset, that much weight gain typically causes children and teens to stop taking their medicine.

"We have seen many cases where the discontinuation of the needed medicine leads to a patient becoming hospitalized due to a suicidal attempt or other mental health crisis," Chen said.

Using a large national electronic medical record database, Chen will identify children and adolescents aged 6 to 19 years who were treated with Metformin during the first 24 months of SGA treatment. Chen will also identify patient subgroups following certain weight development trajectories, who are most likely to benefit from the use of Metformin, and from its early intervention.

Garey Named Fellow of Infectious Diseases Society of America

Kevin W. Garey, Pharm.D., M.S., FASHP, professor and chair of the college's Department of Pharmacy Practice and Translational Research, was recently honored as a 2020 Fellow of the prestigious Infectious Diseases Society of America.

Garey is recognized internationally as an infectious diseases (ID) pharmacotherapy expert, especially in innovative diagnostics and novel therapeutic approaches to *Clostridiodes difficile* infection (CDI). An award-winning

researcher and educator, Garey has published more than 200 research papers in peer-reviewed journals and several book chapters.

Garey also co-founded a two-year ID fellowship program in collaboration with CHI St. Luke's Health-Baylor St. Luke's Medical Center. He has led or collaborated on research grant projects and pre-clinical/clinical trials funded by such entities as the CDC and the National Institutes of Health as well as both small and large organizations in

the pharmaceutical industry, such as Abbott, AstraZeneca and Merck.

Within the IDSA, Garey has served as a member and author of its Clinical Practice Guidelines for CDI and member of its Standards and Practice Guidelines Committee that have produced numerous practice guideline updates in collaboration with the Society for Healthcare Epidemiology of America (SHEA) and other professional health care organizations.

College Welcomes Sanket Patel, Natalie Rosario to Faculty

UHCOP recently welcomed hypertension/kidney researcher Sanket N. Patel, Ph.D., and ambulatory care clinical pharmacist Natalie Rosario, Pharm.D., MPH, BCACP, to its faculty.

Patel has been appointed as a research assistant professor in the Department of Pharmacological and Pharmaceutical Sciences. He has been a laboratory member of Tahir Hussain, Ph.D., FAHA, Joseph P. and Shirley Shipman Buckley Professor in Drug Discovery and Associate Vice Dean for Research & Graduate Programs, since joining the college as a postdoctoral fellow in 2014.

During his time at the college, Patel has been studying the molecular mechanisms of angiotensin-II type 2 receptor activation in combating oxidative stress, adiposity, inflammation and kidney dysfunction. Patel has been awarded the 2019 Biotex Laboratories Junior Scientist Award in Immunology by Association of Scientists of Indian Origin in America (ASIOA), the first-place oral presentation award at ASIOA's 7th National Meeting in 2017, and the 2016 Kidney Council New Investigator Award by the American Heart Association.

His work has been published in such peer-reviewed journals as the *American Journal of Physiology-Renal Physiology, Hypertension*, and *Molecular and Cellular Biochemistry*. He also serves as an academic editor for the journal *Medicine*, and is a reviewer for multiple journals.

Patel earned his Ph.D. and M.S. in Pharmaceutical Sciences degrees from St. John's University in New York, during which he was awarded a one-year competitive research fellowship, and his bachelor of Pharmacy degree from L.M. College of Pharmacy at Gujarat University in Ahmedabad, India.

Rosario has been appointed as a clinical assistant professor in the Department of Pharmacy Practice and Translational Research. She joins



ROSARIO

the college from the Texas A&M University Irma Rangel College of Pharmacy in Kingsville, Texas, where she had served on the faculty since 2019.

Rosario earned her Pharm.D. degree from the University of Kentucky College of Pharmacy (Advanced Pharmacotherapy Gateway track) in Lexington, Ky., and her Master of Public Health from the Creighton University Graduate School in Omaha, Neb.

She also completed a PGY1 pharmacy practice residency program at Palm Beach Atlantic University's Lloyd L. Gregory School of Pharmacy and a PGY2 pharmacy specialty residency program in ambulatory care at the University of Colorado's Skaggs School of Pharmacy and Pharmaceutical Sciences.

In addition to being Board Certified in Ambulatory Care Pharmacy (BCACP) by the Board of Pharmacy Specialties, Rosario has completed certificate programs in medication therapy management, community-based pharmacy point-of-care testing, immunizations, naloxone dispensing, suicide awareness and referral, culturally competent care, collaborative institutional training, and residency teaching and research.

She has presented research at meetings of the American Association of Colleges of Pharmacy, American College of Clinical Pharmacy, and the American Society of Health-System Pharmacy. Her academic and research interests are in health disparities, implementation of clinical pharmacy services, quality improvement initiatives, self care, chronic disease state management, and residency preparation.

Fluent in the Spanish language, Rosario will maintain a clinical pharmacy practice site at Vecino Health Center's Denver Harbor Family Clinic, a Federally Qualified Health Center (FQHC) serving a predominately Hispanic patient population in Houston's Inner Loop.

Rajender R. Aparasu, Ph.D., FAPhA, professor, has received a \$425,000 grant from Gilead Sciences Inc. for his project, "Healthcare utilization and risk of incident hepatocellular carcinoma in Hepatitis B-infected older adults treated with oral antivirals: A Medicare study."

Bernadette Asias-Dinh, Pharm.D., BCACP, BCPS, CDCES, clinical assistant professor, has been appointed 2020-21 co-chair of the Professional and Student Affairs Committee under the American Pharmacists Association-Academy of Pharmacy Practice and Management's Diabetes Management Special Interest Group.

Diana S-L. Chow, Ph.D., FNAI, has received a \$25,000 grant from the Christopher and Dana Reeve Foundation for her project, "Multi-Center, Randomized, Placebo-Controlled, Double-Blinded, Trial of Efficacy and Safety of Riluzole in Acute Spinal Cord Injury."

Kevin W. Garey, Pharm.D., M.S., FASHP, FIDSA, professor, has received a \$146,250 grant from Summit Corporation PLC for his project, "Ridinilazole mechanism of action for the CDC."

.

Bin Guo, Ph.D., associate professor, has received a one-year, \$100,000 grant from the William & Ella Owens Medical Research Foundation for

his project, "Discovery of a new drug that kills cancer cells by direct activation of the TET2 tumor suppressor."

Elisabeth Sulaica, Pharm.D., BCCP, clinical assistant professor, has been appointed Cardiovascular Team State Liaison for the Texas Chapter of the American College of Cardiology.

Gabriel Tao, Ph.D. candidate, was awarded Best Abstract Award from the Lone Star Regional Chapter of the Society of Toxicology for his presentation, "Neratinib Causes Persistent Gut Damage and Reduces Intestinal Cytochrome P450 (CYP) 3A11 Enzyme," during the organization's virtual Annual Meeting Nov. 19–20.

Gomika Udugamasooriya, Ph.D., associate professor, has received a one-year, \$100,000 grant from the William & Ella Owens Medical Research Foundation for his project, "'Drugging the Undruggable': 3-Dimensional peptoids to target mutant Ras proteins in cancer."

Mingfu Wu, Ph.D., associate professor, has received a three-year, \$300,000 grant from the American Heart Association-SouthWest Affiliate for his project, "Integrin Alpha 6 regulates trabecular specification and trabecular compaction."

Recent Publications

Does Social Desirability Influence Preceptors' Completion of Student Experiential Evaluations? **Wanat MA**, **Varkey DA**, **Sulaica EM**, Thornton KA, **Thornton JD**. Am J Pharm Educ. 2020 Sep;84(9):ajpe7949. doi: 10.5688/ajpe7949. PMID: 33012802

Design and Synthesis of a Novel NIR Celecoxib-Based Fluorescent Probe for Cyclooxygenase-2 Targeted Bioimaging in Tumor Cells. Wang X, Wang L, Xie L, Xie Z, Li L, Bui D, Yin T, Gao S, Hu M. Molecules. 2020 Sep 4;25(18):4037. doi: 10.3390/molecules.25184037. PMID: 32899627

Significant Publications on Infectious Diseases Pharmacotherapy in 2019. **Hendrickson JA**, Spitznogle SL, **Gonzales-Luna AJ**, **Babic JT**, Britt RS, Knight JM, Pham SN, McDaneld PM. J Pharm Pract. 2020 Sep 16:897190020951348. doi: 10.1177/0897190020951348. PMID: 32935641

Development and evaluation of additional college of pharmacy admittance variables: Life experiences and holistic composite scores. Lewing B, Wanat M, Pitman P, Sansgiry SS. Curr Pharm Teach Learn. 2020 Oct;12(10):1194-1200. doi: 10.1016/j.cptl.2020.05.015. Epub 2020 Jun 11. PMID: 32739056

Anticholinergic medications and risk of dementia in older adults: Where are we now? Chatterjee S, Talwar A, Aparasu RR. Expert Opin Drug Saf. 2020 Oct;19(10):1251-1267. doi: 10.1080/14740338.2020.1811227. Epub 2020 Aug 31. PMID: 32797761

Protein disulfide isomerase inhibition impairs Keap 1/Nrf2 signaling and mitochondrial function and induces apoptosis in renal proximal tubular cells. **Pokkunuri ID**, **Lokhandwala MF**, **Banday AA**. Am J Physiol Renal Physiol. 2020 Oct 1;319(4):F686-F696. doi: 10.1152/ajprenal.00049.2020. Epub 2020 Aug 24. PMID: 32830535

Whole genome sequencing data of a clinical Enterococcus gallinarum strain EGR748 from Sabah, Malaysia. Mastor NN, Subbiah VK, Bakar WNWA, Begum K, **Alam MJ**, Hoque MZ. Data Brief. 2020 Oct 2;33:106370. doi: 10.1016/j.dib.2020.106370. eCollection 2020 Dec. PMID: 33102652

Assessment of Kidney Injury as a Severity Criteria for Clostridioides Difficile Infection. Carlson TJ, Gonzales-Luna AJ, Nebo K, Chan HY, Tran NT, Antony S, Lancaster C, Alam MJ, Begum K, Garey KW. Open Forum Infect Dis. 2020 Oct 7;7(11):ofaa476. doi: 10.1093/ofid/ofaa476. eCollection 2020 Nov. PMID: 33209956

Group-Based Trajectory Modeling to Identify Patterns of Adherence and Its Predictors Among Older Adults on Angiotensin-Converting Enzyme Inhibitors (ACEIs)/Angiotensin Receptor Blockers (ARBs). Paranjpe R, Johnson ML, Essien EJ, Barner JC, Serna O, Gallardo E, Majd Z, Fleming ML, Ordonez N, Holstad MM, Abughosh SM. Patient Prefer Adherence. 2020 Oct 13;14:1935-1947. doi: 10.2147/PPA.S270809. eCollection 2020. PMID: 33116437

Higher Resource Utilization and Costs in Long-Term Nursing Home Residents With Overactive Bladder: A Retrospective Study of Medicare Beneficiaries. **Sura S**, Shiozawa A, Ng D, **Aparasu RR**. J Am Med Dir Assoc. 2020 Oct 15:S1525-8610(20)30743-X. doi: 10.1016/j.jamda.2020.08.037. PMID: 33071158

Rapid intestinal glucuronidation and hepatic glucuronide recycling contributes significantly to the enterohepatic circulation of icaritin and its glucuronides in vivo. Rong Y, Tu Y, Yin T, Meng Z, Dou G, **Hu M**. Arch Toxicol. 2020 Nov;94(11):3737-3749. doi: 10.1007/s00204-020-02867-3. Epub 2020 Sep 11. PMID: 32918091

The effects of $\beta 1$ and $\beta 1+2$ adrenergic receptor blockade on the exercise-induced mobilization and ex vivo expansion of virus-specific T cells: implications for cellular therapy and the anti-viral immune effects of exercise. Kunz HE, Agha NH, Hussain M, LaVoy EC, Smith KA, Mylabathula P, Diak D, Baker FL, O'Connor DP, **Bond RA**, Katsanis E, Bollard CM, Simpson RJ. Cell Stress Chaperones. 2020 Nov;25(6):993-1012. doi: 10.1007/s12192-020-01136-7. Epub 2020 Aug 10. PMID: 32779001

Potential role of drug metabolizing enzymes in chemotherapy-induced gastrointestinal toxicity and hepatotoxicity. **Tao G**, Huang J, Moorthy B, Wang C, **Hu M**, Gao S, **Ghose R**. Expert Opin Drug Metab Toxicol. 2020 Nov;16(11):1109-1124. doi: 10.1080/17425255.2020.1815705. Epub 2020 Sep 2. PMID: 32841068

Comparative Adherence Trajectories of Oral Fingolimod and Injectable

Disease Modifying Agents in Multiple Sclerosis. **Earla JR**, Hutton GJ, **Thornton JD**, **Chen H, Johnson ML**, **Aparasu RR**. Patient Prefer Adherence. 2020 Nov 4;14:2187-2199. doi: 10.2147/PPA.S270557. eCollection 2020. PMID: 33177813

Molecular targeting therapies for neuroblastoma: Progress and challenges. Zafar A, Wang W, Liu G, Wang X, Xian W, McKeon F, Foster J, Zhou J, Zhang R. Med Res Rev. 2020 Nov 6. doi: 10.1002/med.21750. PMID: 33155698 Review.

Absence of Toxemia in Clostridioides difficile Infection: Results from Ultrasensitive Toxin Assay of Serum. Sprague R, Warny K, Pollock N, Daugherty K, Lin Q, Xu H, Cuddemi C, Barrett C, Chen X, Banz A, Lantz A, Garey KW, Gonzales-Luna AJ, Alonso CD, Galvez JAV, Kelly CP. Dig Dis Sci. 2020 Nov 8. doi: 10.1007/s10620-020-06683-8. PMID: 33164145

Comparative risk of adverse outcomes associated with nonselective and selective antimuscarinic medications in older adults with dementia and overactive bladder. **Kachru N**, Holmes HM, **Johnson ML**, **Chen H**, **Aparasu RR**. Int J Geriatr Psychiatry. 2020 Nov 9. doi: 10.1002/gps.5467. PMID: 33169433

New β-Lactam-β-Lactamase Inhibitor Combinations. Yahav D, Giske CG, Grāmatniece A, **Abodakpi H**, **Tam VH**, Leibovici L. Clin Microbiol Rev. 2020 Nov 11;34(1):e00115-20. doi: 10.1128/CMR.00115-20. Print 2020 Dec 16. PMID: 33177185 Review.

A CRISPR-Cas9 repressor for epigenetic silencing of KRAS. Liu J, Sun M, Cho KB, Gao X, Guo B. Pharmacol Res. 2020 Nov 14:105304. doi: 10.1016/j.phrs.2020.105304. PMID: 33202255

Performance of Population Pharmacokinetic Models in Predicting Polymyxin B Exposures. **Tam VH**, Lee LS, Ng TM, Lim TP, Cherng BPZ, **Adewusi H**, Hee KH, Ding Y, Chung SJ, Ling LM, Chlebicki P, Kwa ALH, Lye DC. Microorganisms. 2020 Nov 18;8(11):1814. doi: 10.3390/microorganisms8111814. PMID: 33217914

Repurposing of Drugs-The Ketamine Story. **Das J.** J Med Chem. 2020 Nov 25;63(22):13514-13525. doi: 10.1021/acs.jmedchem.0c01193. Epub 2020 Sep 22. PMID: 32915563 Review.

Factors associated with abnormal glucose readings in a pharmacy-led community health fair using the ADA risk assessment tool. **Asias-Dinh BD**, **Garey KW**. J Am Pharm Assoc (2003). 2020 Nov 27:S1544-3191(20)30551-3. doi: 10.1016/j.japh.2020.11.002. PMID: 33257174

Validation of Vancomycin Dosing Guidance During Transition of Care. Ng TM, Heng ST, Oon J, Chan M, **Tam VH**. J Clin Pharmacol. 2020 Nov 30. doi: 10.1002/jcph.1793. PMID: 33258161

MIC profiling of ceftazidime/avibactam against two carbapenemase-producing Klebsiella pneumoniae isolates. **Zidaru A, Eales BM, Wang W, Merlau PR,** Lasco TM, **Sofjan AK, Tam VH.** J Glob Antimicrob Resist. 2020 Dec;23:385-387. doi: 10.1016/j.jgar.2020.10.014. Epub 2020 Nov 6. PMID: 33166758

Impact of COVID-19 Related Policy Changes on Buprenorphine Dispensing in Texas. **Thornton JD, Varisco TJ, Bapat SS, Downs CG**, Shen C. J Addict Med. 2020 Dec;14(6):e372-e374. doi: 10.1097/ADM.00000000000000756. PMID: 33031213

Development and validation of ultra-high-performance liquid chromatography-mass spectrometry method for the determination of raloxifene and its phase II metabolites in plasma: Application to pharmacokinetic studies in rats. Du T, **Sun R, Li L**, Ebuzoeme C, **Bui D**, **Zheng Z**, **Yin T**, Liang D, **Hu M**, Gao S. J Sep Sci. 2020 Dec;43(24):4414-4423. doi: 10.1002/jssc.202000835. Epub 2020 Nov 20. PMID: 33119204

Synergism between Angiotensin receptors ligands: Role of Angiotensin-(1-7) in modulating AT2 R agonist response on nitric oxide in kidney cells. **Patel S, Hussain T**. Pharmacol Res Perspect. 2020 Dec;8(6):e00667. doi: 10.1002/prp2.667. PMID: 33197136

Design of a dual ERK5 kinase activation and autophosphorylation inhibitor to block cancer stem cell activity. **Kedika SR, Shukla SP, Udugamasooriya DG**. Bioorg Med Chem Lett. 2020 Dec 1;30(23):127552. doi: 10.1016/j. bmcl.2020.127552. Epub 2020 Sep 15. PMID: 32946922