

Innovations and Transformations in Pharmaceutical Sciences 2020

A virtual conference for current and future scientists to learn about the discovery, delivery and clinical use of drugs and vaccines.

July 6-10 2020 | July 20-24 2020 | July 27-31 2020

ABOUT 项目简介

ITPS-Virtual: Overview to Discovery, Delivery, and Clinical Use of Drugs and Vaccines is an online 3-week course offered to learners around the world. The program will expose learners to world-class professors from the number 1 ranked school of pharmacy in the United States of America. Participants will explore cutting edge research and innovative technologies as professors explore the lifecycle of drugs and vaccines in our modern world.

ITPS-在线：药物和疫苗的发现、递送和临床使用概述是为全球学习者提供的为期 3 周的在线课程。本项目将使学习者接触到来自美国排名第一的药学院的世界级教授。参与者将跟随教授们探索现代世界中药物和疫苗的生命周期，探索前沿的研究和创新技术。

The first week of the program is free, offering introductory topics in pharmaceutical sciences. The second and third week, available exclusively to enrolled learners, will dive deeper into the fascinating science and clinical application of drugs and vaccines.

本项目的第一周是免费的，提供药物科学的入门主题。第二周和第三周，仅向注册的学习者开放，将深入研究药物和疫苗的科学和临床应用。

Classes will be held Monday through Friday from 7:30-10:30 a.m. EST for the weeks of July 6, July 20, and July 27.

课程将于美国东部时间上午 7:30-10:30（美国东部标准时间）从周一至周五举行，时间为 7 月 6-10 日，7 月 20-24 日和 7 月 27-31 日。

Who Should Attend? 谁适合参加?

- Students interested in a career in pharmaceutical sciences/biopharmaceutical research and drug development.

对药物科学/生物制药研究和药物开发感兴趣的学生。

- Faculty from schools of pharmacy and pharmaceutical sciences who desire to learn more about pharmaceutical science topics and ongoing research at UNC.

希望了解更多 UNC 有关药物科学主题和正在进行的研究的药理学和药物科学学院教师。

- Individuals working in biopharmaceutical research and drug development.

从事生物制药研究和药物开发的人员。

Why Attend? 为何参加?

To learn about cutting edge drug research and techniques from some of the leading pharmaceutical scientists in the world.

向世界上一些领先的药物科学家学习前沿的药物研究和技术。

When to Attend? 何时参加?

第一周: 7月6-10日, 上午7:30-10:30 美东标准时间 (晚上7:30-10:30 北京时间)

第二周: 7月20-24日, 上午7:30-10:30 美东标准时间 (晚上7:30-10:30 北京时间)

第三周: 7月27-31日, 上午7:30-10:30 美东标准时间 (晚上7:30-10:30 北京时间)

Agenda 项目日程

WEEK 1

July 6	7:30-8:50 a.m. Welcome / Zoom Tutorial / UNC Overview Dr. Stephen Eckel and Dr. Mike Jarstfer
	9-10:30 a.m. TBD Dr. Mike Jarstfer (CBMC)
July 7	7:30-8:50 a.m. TBD TBD
	9-10:30 a.m. TBD Dr. Kevin Frankowski (CBMC)
July 8	7:30-8:50 a.m. TBD TBD
	9-10:30 a.m. TBD Aaron Anselmo
July 9	7:30-8:50 a.m. Treatment for COVID Dr. Dennis Williams (DPET)

	9-10:30 a.m. TBD Ms. Swetha Srinivasan (DPOP) *student*
July 10	7:30-8:50 a.m. Critical Review of Literature Ms. Rebecca Carlson and Ms. Megan Fratta
	9-10 a.m. Pharmacy Degree Programs Ms. Olivia Hammill, Mr. William Taylor, Dr. Kathryn Morbitzer, Dr. Mike Jarstfer
	10-10:30 a.m. Week 1 Wrap Up and Next Steps Dr. Stephen Eckel and Dr. Mike Jarstfer

WEEK 2

July 20	7:30-8:50 a.m. Data Science and Drug Discovery Dr. Alex Tropsha (CBMC)
	9-10:30 a.m. Drug Transporters Dr. Kim Brouwer (DPET)
July 21	7:30-8:50 a.m. Introduction to Grant Writing Dr. Ruth Everett
	9-10:30 a.m. Genetics guiding pharmacotherapy Dr. Erin Heinzen (DPET)
July 22	7:30-8:50 a.m. Observational design studies: considerations for pharmacogenomics and biomarker research Dr. Craig Lee (DPET)
	9-10:30 a.m. Bi-directional interaction between the innate immune system and complex-drugs and biologics Dr. Bill Zamboni (DPET)
July 23	7:30-8:50 a.m. PK/PD modeling and simulation in the development of therapeutic antibodies Dr. Carter Cao
	9-10:30 a.m. Antibiotic PK/PD Dr. Gauri Rao (DPET)

July 24	7:30-9:20 a.m. UNC Student Panel / Networking Teaching Assistants
	9:30-10:30 a.m. Week 2 Wrap-up and Review Teaching Assistants

WEEK 3

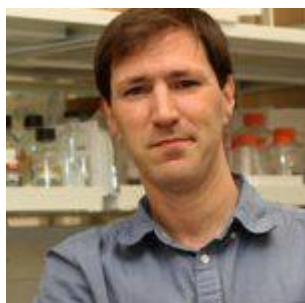
July 27	7:30-8:50 a.m. PK/PD and Drug Dosing in Pediatric Patients Dr. Daniel Gonzalez
	9-10:30 a.m. Vaccines and global immunization programs Dr. Sachi Ozawa
July 28	7:30-8:50 a.m. Synthesis and development of carbohydrate-based medicines Dr. Jian Liu (CBMC)
	9-10:30 a.m. TBD Dr. Albert Bowers (CBMC)
July 29	7:30-8:50 a.m. TBD Dr. Leaf Huang (DPMP)
	9-10:30 a.m. Exosomes Dr. Juliane Nguyen (DPMP)
July 30	7:30-8:50 a.m. Drug-Induced Liver Injury Dr. Paul Watkins (DPET)
	9-10:30 a.m. Cardio-oncology Dr. Jo Ellen Rodgers (DPET)
July 31	7:30-9:20 a.m. CV and Personal Statement Writing UNC Career Center
	9:30-10:30 a.m. Week 3 Wrap-Up and Closing Remarks Dr. Stephen Eckel and Dr. Mike Jarstfer

讲师名单



Aaron Anselmo

Aaron C. Anselmo, Ph.D. joined the UNC Eshelman School of Pharmacy in 2017 as an assistant professor in the Division of Pharmacoengineering and Molecular Pharmaceutics. Anselmo, who has authored over 30 peer-reviewed publications, received his B.S. degree in Chemical Engineering from Rensselaer Polytechnic Institute and then earned his Ph.D. in Chemical Engineering at the University of California, Santa Barbara.



Albert Bowers

Albert Bowers received his PhD in organic chemistry (synthetic methods) from the University of Illinois at Chicago. He carried out postdoctoral research (total synthesis) at Colorado State University before moving as an NIH sponsored fellow to Harvard Medical School (biosynthesis). He is a member of the [UNC Lineberger Comprehensive Cancer Center](#) and affiliate member of the [Center for Integrative Chemical Biology and Drug Discovery](#).



Kim Brouwer

Kim L.R. Brouwer, Pharm.D., Ph.D., is the William R. Kenan Jr. Distinguished Professor in the Division of Pharmacotherapy and Experimental Therapeutics at the UNC Eshelman School of Pharmacy, associate dean for research and graduate education, and a professor in the curriculum in toxicology.



Dr. Carter Cao

Yanguang Cao, Ph.D., joined the UNC Eshelman School of Pharmacy as an assistant professor in the division of Pharmacotherapy and Experimental Therapeutics. Prior to joining the School, Cao served as a research assistant professor at SUNY Buffalo for two years after completing a postdoctoral training program at SUNY, Buffalo.



Dr. Delesha Carpenter

Delesha Carpenter, PhD, MSPH, is an associate professor in the Division of Pharmaceutical Outcomes and Policy. She is particularly interested in developing innovative mobile health (mHealth) technologies to improve patients' chronic disease self-management and quality of life, especially for rural populations. She has developed an adolescent asthma self-management app and a tailored video software program to improve children's asthma inhaler technique. Her research also explores

interpersonal influences on disease self-management for adolescents and adults living with chronic illnesses, such as asthma and arthritis. She teaches the Social & Behavioral Aspects of Pharmaceutical Use course and has enjoyed mentoring PhD students, PharmD students, and hosting students from other universities for research rotations.



Dr. Stephen Eckel

Stephen Eckel, Pharm.D., M.H.A., is associate dean for global engagement and a clinical associate professor in the Division of Practice Advancement and Clinical Education. He is the division's vice chair for graduate and postgraduate education. In addition, he is director of graduate studies overseeing the two-year [Master of Science in Pharmaceutical Sciences](#) with a specialization in health-system pharmacy administration.

This degree is hosted at multiple sites across North Carolina. At UNC Hospitals, he is associate director of pharmacy, where he leads and develops a dynamic group of patient-care providers, and director of pharmacy residency programs. He has worked with almost 200 residents over the years. Eckel is a board certified pharmacotherapy specialist.



Dr. Ruth Everett

Ruth Everett worked for several years as a lecturer and head of the Department of Zoology at Jyoti Nivas College, Bangalore. She gained experience in cell and molecular biology at the Cystic Fibrosis/Pulmonary Research and Treatment Center at UNC-Chapel Hill and at the University of Arkansas for Medical Sciences (Department of Pulmonary Medicine) as a research instructor. She joined the laboratory of Dhiren Thakker initially as a visiting scholar and then as research faculty. Everett's

research interests are in the areas of metformin intestinal absorption/transport mechanisms and anticancer activities, and in the modulation of tight junctions for enhanced drug delivery.



Dr. Daniel Gonzalez

Daniel Gonzalez, Pharm.D., Ph.D., is an assistant professor in the Division of Pharmacotherapy and Experimental Therapeutics of the UNC Eshelman School of Pharmacy. He has an adjunct appointment within the Department of Pediatrics in the UNC School of Medicine. He joined the UNC Eshelman School of Pharmacy in 2014 after completing a postdoctoral fellowship through the UNC-Duke Collaborative Clinical Pharmacology T32 Postdoctoral Training Program. Gonzalez received his Pharm.D. and Ph.D. from the University of Florida College of Pharmacy in 2008 and 2012, respectively. Gonzalez is a licensed pharmacist in North Carolina and Florida.



Dr. Erin Heinzen

Erin Heinzen, Pharm.D., Ph.D., is an associate professor at the UNC Eshelman School of Pharmacy in the Division of Pharmacotherapy and Experimental Therapeutics with a joint appointment in the UNC Department of Genetics. Dr. Heinzen received her Pharm.D. (2001) and her Ph.D. (2004) in Pharmaceutical Sciences from the University of North Carolina at Chapel Hill. She then went on to do postdoctoral training in human genetics at Duke University. Previously she served as Deputy Director of the Institute for Genomic Medicine and was the Herbert Irving Assistant Professor of the Department of Pathology & Cell Biology at Columbia University. Dr. Heinzen is a licensed pharmacist in North Carolina and New York.



Dr. Leaf Huang

Leaf Huang, Ph.D. is the Fred Eshelman Distinguished Professor, Division of Pharmacoengineering and Molecular Pharmaceutics in the Eshelman School of Pharmacy, University of North Carolina at Chapel Hill. Dr. Huang's research has been in the area of gene therapy and targeted drug delivery. He has pioneered the liposome non-viral vector and has designed and manufactured the cationic lipid vector for the first non-viral clinical trial in 1992. His current work centers on nanoparticle vectors for gene transfer in tumor and liver. He also continues research in establishing a ligand targeted delivery system for cDNA, mRNA, siRNA, proteins and peptides for tumor growth inhibition and for vaccines in treating cancer and infected diseases. He has authored or co-authored more than 600 papers with an H-index of 120. He is also the inventor or co-inventor of 22 US and foreign patents. In 2004, he received the Alec D. Bangham MD FRS Achievement Award, which is the highest honor in liposome research. He was the recipient of the 2013 Distinguished Pharmaceutical Scientist Award which is the highest scientific recognition of the American Association of Pharmaceutical Scientists. Dr. Huang has also co-founded 6 biotech start-ups in the past.



Dr. Jian Liu

John & Deborah McNeill, Jr. Distinguished Professor

Research in the Jian Liu group is focused on glycobiology and glycochemistry, an emerging field that emphasizes the biological functions of carbohydrates. We are particularly interested in understanding the biosynthetic mechanism of sulfated polysaccharides known as heparan sulfate and heparin.



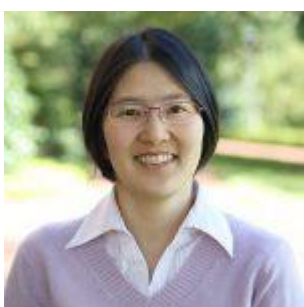
Dr. Mike Jarstfer

As Assistant Dean for Graduate Education, Mike Jarstfer is the Director of Graduate Studies for Pharmaceutical Sciences PhD Program and in this role advances innovative approaches to enhance graduate training. The Jarstfer lab is interested in targeting telomere biology for aging disorders and cancer treatment strategies and exploring the mechanism of oxytocin in controlling social behavior.



Dr. Craig Lee

Craig Lee, Pharm.D, Ph.D. is an associate professor in the UNC Eshelman School of Pharmacy's Division of Pharmacotherapy and Experimental Therapeutics. Lee is a licensed pharmacist in North Carolina, and is trained as a clinical/translational pharmaceutical scientist with expertise in cytochrome P450 metabolism, cardiovascular experimental therapeutics, and precision medicine/pharmacogenomics.



Dr. Sachi Ozawa

Sachiko Ozawa, Ph.D., M.H.S., is a health economist whose work focuses on generating evidence that can be used to improve the health of populations globally. Her research focuses on examining the value of vaccines, assessing the economic burden of diseases and examining the demand and utilization of health care. She is interested in the interface between pharmacy and public health from the perspective of a global health economist.



Dr. Gauri Rao

Gauri Rao, Pharm.D., M.S., joined the UNC Eshelman School of Pharmacy as a tenure-track assistant professor in the Division of Pharmacotherapy and Experiential Education in 2016. Rao's principal research interests surround quantitative systems pharmacology, and she is working to understand the processes of infectious diseases, specifically how the infecting pathogen and host immune system interact with each other. Her work is extending the knowledge of complex host-pathogen interactions and perturbations imposed by therapeutic interventions during a time of increasing bacterial resistance, a diminishing antibiotic drug pipeline and lack of viable treatment options for infections due to highly drug resistant bacteria.



Dr. Jo Ellen Rodgers

Interim Vice Department Chair, Division of Pharmacotherapy and Experimental Therapeutics

Associate Director, Clinical Fellowship Programs

Professor



Dr. Bob Shrewsbury

Bob Shrewsbury received his BS in pharmacy from the University of Oklahoma in 1972 and his PhD from the University of Kentucky in 1977. His background training is in basic and applied biopharmaceutics and pharmacokinetics and in drug-interaction mechanisms. More recently, his research interests have focused on classroom and laboratory instructional methodologies using Web-based or technology-based formats. He has authored over 100 book chapters, numerous online education courses and continuing education seminars and national certification examination study guides for pharmacy professionals, pharmacy students and pharmacy technicians. He built and maintains an internationally utilized website for pharmacy compounding where 40 percent of the users are from outside the United States. He was elected as member of the USP Expert Committee on Compounding in 2010 and again in 2015.



Dr. Alex Tropsha

Alex Tropsha, Ph.D., is an expert in the fields of computational chemistry, cheminformatics and structural bioinformatics who works to develop new methodologies and software tools for computer-assisted drug design. He is creating new approaches to protein 3D structure analysis and prediction based on the principles of statistical geometry. His particular expertise lies in the field of cheminformatics, a discipline where information and informatics methodologies are applied to storing,

managing, exploring and exploiting chemical databases. In layman's terms, cheminformatics combines chemistry and computer science to aid in the discovery of new drugs.



Dr. Paul Watkins

Paul Watkins, M.D., is director of the Institute for Drug Safety Sciences at the UNC Eshelman School of Pharmacy and the Howard Q. Ferguson Distinguished Professor in the Division of Pharmacotherapy and Experimental Therapeutics. Watkins is interested in mechanisms that underlie serious liver injury due to drugs. His research spans preclinical models to patients in clinical trials and utilizes current genomics technologies, including genetics, transcriptomics and metabolomics.



Dr. Dennis Williams

Dennis Williams, Pharm.D., is an associate professor and the vice chair for professional education and practice for the Division of Pharmacotherapy and Experimental Therapeutics.



Dr. Bill Zamboni

William Zamboni, Pharm.D., Ph.D., received his bachelor of science, doctor of pharmacy and doctor of philosophy from the University of Pittsburgh School of Pharmacy in Pittsburgh, Pennsylvania. He completed his oncology residency at the Warren G. Magnuson Clinical Center, National Institutes of Health, in Bethesda, MD and his research fellowship at the Department of Pharmaceutical Sciences, St. Jude Children's Research Hospital, in Memphis, Tennessee.

更多详情请见官网：

<https://pharmacy.unc.edu/itps/>

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