Symposium 1: Drug transporters in clinical pharmacokinetics and drug-drug interactions

Prof Jashvant Unadkat, University of Washington, USA

Jashvant (Jash) Unadkat, Ph.D. is a Professor of Pharmaceutics in the School of Pharmacy at the University of Washington, Seattle. He received his Bachelors degree in Pharmacy (B.Pharm.) from the University of London (1977), his Ph.D. from the University of Manchester (1982) and his postdoctoral training at the University of California at San Francisco (1982-85). Dr. Unadkat's research interests are focused on elucidating the mechanisms of transport and metabolism of anti-AIDS and anti-cancer drugs. In particular his laboratory has been interested in metabolism and transport of drugs during pregnancy, and transport of drugs across the placental, intestinal and blood-brain barrier. Dr. Unadkat has published more than 140 peer-reviewed research papers. Dr. Unadkat is a fellow of AAPS, JSSX, and the founding member and the past chair (1999-2001) of the focus group of AAPS on Drug Transport and Uptake. Dr. Unadkat has been an Associate Editor for the Journal of Pharmaceutical Sciences, an Editor of *AAPS Journal.*, and a member of the NIH Pharmacology study section (2000-3). Dr. Unadkat is currently on the editorial board of J. Pharm. Sci and the *AAPS Journal*. Dr. Unadkat has organized or co-organized numerous national and international conferences on the role of transporters and pregnancy in disposition of drugs. http://sop.washington.edu/pharmaceutics/faculty-a-research/jashvant-unadkat.html

Prof William Elmquist, University of Minnesota, USA

William F. Elmquist is currently Professor and Department Head at the University of Minnesota, Department of Pharmaceutics. He received his professional pharmacy degree at the University of Florida, and a Pharm.D. and Ph.D. (pharmacokinetics) from the University of Minnesota. Dr. Elmquist has developed an internationally recognized research program in preclinical pharmacokinetics. This program has revolved around the examination of the mechanisms of drug distribution to target tissues, in particular the central nervous system (CNS). This research has studied the influence of active efflux transporters in the blood-brain barrier (BBB) on CNS drug distribution. As an offshoot of this research, much of the well-recognized effort from Dr. Elmquist's laboratory has dealt with the exploration and quantitative development of the microdialysis technique, employed at *in vitro*, intracerebral and intravascular sampling sites**.** An important project has examined the determinants of anticancer drug permeability in the blood-brain barrier. The effective treatment of many brain tumors is limited by inadequate delivery of the chemotherapy across the barriers of the CNS, and mechanisms for limited delivery of molecularly-targeted anti-tumor agents have been discovered and characterized at the blood-brain barrier. Long-term objectives of Dr. Elmquist's research include examining expression and regulation of transport systems in key tissues that influence drug disposition, and how variability in expression, either genetically or environmentally controlled, may contribute to variability in drug response in the patient.

Dr Dhiren Thakker, University of North Carolina, USA

Dr. Thakker is the Ferguson Distinguished Professor and Associate Dean for Economic Development and International Partnerships at the UNC Eshelman School of Pharmacy, the University of North Carolina at Chapel Hill. From 1998 to 2008, he served as the Associate Dean for Research and Graduate Education. He is a co-founder of Qualyst and Sphaera Pharma. Previously, he served as Director of Drug Metabolism Department at Glaxo Inc., Principle Investigator at the Center for Biologics, FDA, and had held multiple positions at the National Institutes of Health. He has Batchelor of Pharmacy from Bombay University, India, M.S. in Pharmaceutical Chemistry from Columbia University, New York, and Ph.D. in Biochemistry from the University of Kansas at Lawrence.

Prof Kim Brouwer, University of North Carolina, USA

Kim L.R. Brouwer, Pharm.D., Ph.D., is the William R. Kenan, Jr., Distinguished Professor and Chair of the Division of Pharmacotherapy and Experimental Therapeutics at the UNC Eshelman School of Pharmacy, University of North Carolina at Chapel Hill. Dr. Brouwer received her B.S. in Pharmacy from Oregon State University, Pharm.D./residency training and a Ph.D. in Pharmaceutical Sciences/Pharmacokinetics from the University of Kentucky College of Pharmacy, and postdoctoral training in Pharmacology/Drug Metabolism prior to joining the UNC faculty in 1986. Dr. Brouwer directs an NIH-funded research program focused on hepatobiliary drug disposition, hepatic transport proteins, and development/refinement of *in vitro* models to predict *in vivo* hepatic drug disposition, drug interactions, and hepatotoxicity. She has expertise in developing mathematical models and applying modeling/simulation to aid in the analysis and interpretation of *in vitro* and *in vivo* data in adults and pediatrics. Dr. Brouwer was founding Director of the UNC Pharmacokinetics/Pharmacodynamics Fellowship Program and is Co-PI of a NIH-funded Postdoctoral Training Program in Clinical Pharmacology. She has published more than 160 research papers and book chapters, and is co-inventor of B-CLEAR®. She is a member of the International Transporter Consortium Steering Committee, and several editorial advisory boards including *Clinical Pharmacology and Therapeutics, CPT: Pharmacometrics & Systems Pharmacology,* and the *AAPS Journal*. Dr. Brouwer was elected an AAPS Fellow in 1998 and was recipient of the PHRMA Foundation Award in Excellence in Pharmaceutics in 2001.